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E CAMBRIDGE OF EIGHTEEN HUNDRED AND NINETY-SIX

A PICTURE OF

THE CITY AND ITS INDUSTRIES FIFTY YEARS AFTER ITS INCORPORATION

DONE BY DIVERS HANDS

AND EDITED BY

ARTHUR GILMAN, A.M.

EDITOR OF "THE CAMBRIDGE OF 1776"

UNDER THE DIRECTION OF A COMMITTEE OF THE CITY GOVERNMENT AND CITIZENS

You're may be right, parson, [illegible],
But I [illegible] and south
The [illegible]

JAMES RUSSELL LOWELL.

CAMBRIDGE
Printed at the Riverside Press
1896

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There may be fairer spots of earth,
But all their glories are not worth
The virtue of the native sod.
JAMES RUSSELL LOWELL.

CAMBRIDGE
Printed at the Riverside Press
1896

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At a meeting of the CITIZENS' TRADE ASSOCIATION, held December 20, 1895, the President, H. O. HOUGHTON, in the chair, on motion of GEORGE HOWLAND COX, it was

Voted: That a committee, consisting of the president of this Association and four of its members (to be appointed by the chair), be requested to confer with the citizens' committee upon the expediency of collecting statistics in relation to the City of Cambridge, showing its advantages as a place of residence and for the establishment of business, and any and all knowledge, the promulgation of which would prove beneficial to the growth and general welfare of the city; the same to be published in an illustrated form and distributed throughout the country as the wisdom of the committee may determine.

COMMITTEE ON THE MEMORIAL VOLUME.

GEORGE HOWLAND COX, *Chairman.*
Councilman ALBERT S. APSEY, *Clerk.*

Alderman RUSSELL BRADFORD.
Councilman DAVID W. BUTTERFIELD.
JUSTIN WINSOR.
Rev. JOHN O'BRIEN.
JOHN HOPEWELL, Jr.
CHESTER W. KINGSLEY.

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BY GEORGE HOWLAND COX.

PREFACE.

THE pages now in the hands of the reader are the fruit of those sentiments of municipal pride which demand some permanent record of the good traits of a city loved. Patriotism is strongly developed in America, but the spirit of devotion to the city of one's birth or choice is in need of stimulation. It is possible for a child to grow up a patriot without a real appreciation of those duties that arise from his living among throngs of people. The independence of country life is consistent with a selfishness that is quite out of place in a city. In the crowded town, every man, woman, and child must consider his neighbors. Not one of them can have his own water-supply, for example, and manage it independently. The drainage of his estate must be controlled by the convenience of those about him. He may not locate his dwelling, even, without consideration of the dwellings of others, and of his relations to his neighbors. In the days of our forefathers in America, men lived in the country, and the cities were small. Now the residents of cities constitute the greater portion of the inhabitants of our State and Nation.

Such are some of the reasons why it is necessary in these days to lay deep the foundations of love of city, as distinguished from that love of country which has dominated all true Americans since the moment that Winthrop first set foot on the shores of Newe Towne, or that other notable day when Washington drew his sword under the ancient Tree on the Common. Our city fortunately has a history which can be dwelt upon with satisfaction. The Cambridge of eighteen hundred and ninety-six is quite as well worth our thought and admiration as the infant Cambridge that boasted a Winthrop and a Shepard.

The present publication has another reason than these for its

being. The civic pride which leads us to linger over the story of the lives of our worthy ancestors inclines us no less strongly to place on record, for the benefit of our descendants, a picture of the city that we know. What is the Cambridge of 1896 doing, and what message has it for posterity? Prophecy has a powerful influence in bringing its own fulfillment to pass; and depicting the good traits of a man or of a city may have a similar tendency in emphasizing the best, and in making it permanent. If the Cambridge of our day is worthy because it is the centre of important manufactures; if it holds up to the world any principles of education, or if it is stamped by the mark of a method of civic management that may be called "The Cambridge Idea," we may be sure that it is worth our while to put down on paper and preserve for our children an account of it all.

The chapters of this book may be considered monographs. Various loving hands have described those features which they in their intimate acquaintance with the different matters have thought best. They have left to the Editor the agreeable task of making for them the bow that good manners demand. The Editor wishes to disclaim the honor of planning the book, and the much more serious labor of selecting the writers and gathering the papers. Those duties have fallen to the Chairman of the Committee. With what success they have been performed, the reader will judge. It is not for a Cambridge man to say that it is seldom possible to convene such an assemblage of writers from the citizenship of a single city.

The interest in this volume has not by any means been confined to Cambridge. When "The Cambridge of 1776" was prepared by the present Editor, Mr. Howells, at that time editor of "The Atlantic," made a graceful contribution, and when he was offered the opportunity to repeat his good deed, he expressed himself as filled with such admiration of the place of his former abode that he would like to write the whole book himself! Here are his words: —

"If I had only had the time, I should have liked to write the whole book myself. For one who was not born in Cambridge I believe that I am a most impassioned and inexpatriable (allow me!) citizen of the place. It is nearly twenty years since I lived there, but I have never

wholly been away from it, and in my reveries by day, and my dreams by night, I am still a dweller there. Lowell still comes to the door of my little carpenter's box on Sacramento Street, and asks me to walk with him over the vacant fields which you fancy are covered with houses. In my errands to the University Press, I meet Agassiz going and coming near the Museum; I come out in the Garden Street car with Richard Henry Dana; sometimes the weird presence of Forceythe Willson encounters me on Mount Auburn Street. I often find Longfellow in his library at Craigie House, where he was always so patient of intrusion, and the whole circle of the simple great men of the past suffers my youthful inadequacy at his round table.

"I know that there is a superstition that these men are dead, but I cannot think of any who are so much alive. I rather feel that I am the ghost when I am in their company, and there is an actual Cambridge which is not half so real as the Cambridge I used to know, and hope to know again when I go back to the house that I built. That Cambridge is one of the famous towns of all times, and can no more pass away than Athens or Florence. I hope your book will help to repopulate it. We who have never ceased to live there are always glad of newcomers, if they are people of taste and cultivation, as your readers must be."

The good-will did not end, however, with this distinguished author. Among others, Mr. George Coffin Little, son of Mr. Charles C. Little, who was one of the selectmen under the town government, elsewhere mentioned in the book, showed his interest. He sent from France, where he has long lived, many interesting reminiscences, which arrived, unfortunately, too late for use, though they will doubtless see light in another place. Mr. Little was born in the "new home" that his father had just built on the corner of Holyoke and Winthrop streets, where he had as neighbors, "Mr. Folsom, the college printer, afterwards the well-known librarian of the Boston Athenæum; Dr. Harris, the college librarian; Mr. Dana, the cashier of the Charles River Bank; and last, but not least, the Rev. Dr. Albro, the friend of all, universally beloved." It would be pleasant to follow Mr. Little through his recollections of the early Commencements of Harvard College, when the Square took on the appearance of a country fair; of "Miss Jennison's school," on Garden Street, under the shade of the Washington Elm, which he attended; of the other school on Garden Street, near Christ

Church, kept by "Mr. G.;" of Mr. Wells's school, with the discipline that he thought in his earlier days "severe;" of still another school on Dana Hill, kept by Mr. E. B. Whitman, "who never could be induced to write with a steel pen," nor keep school without "a rod or ruler," for discipline's sake; of Colonel Brackett, the butcher, and the eccentric but favorite George Francis Train; of James Russell Lowell, "in his youthful beauty;" of the brothers Bird, above Elmwood, and their singing-school. All of this we must pass on to the editor of "The Cambridge of 1946," with our compliments.

There is one other friend of Cambridge who can never be forgotten when its attractions are celebrated. Mr. John Holmes, mentioned several times in the present volume, still lives among us; and he, too, has been moved to make a contribution to the book. The following lines, sent to the Editor without title, will serve as a prologue. The Editor has ventured to give them a heading in keeping with the ancient style that Mr. Holmes has adopted: —

A BALLADE OF OLD CAMBRIDGE

SHOWING HOW THE STRANGER FOUND HIS WAY ABOUT THE RENOWNED VILLAGE, AND HOW AN EMPTY SENTRY-BOX AFFRIGHTED A LITTLE MAIDEN.

BY J. H.

The old time Cambridge had no book
  Of color blue and gold,
Which to a searcher in the town
  His right direction told.

No names or numbers then of streets
  Were to the people known;
Each to the questioner showed the way,
  By methods of his own.

"Far as Miss Jarvis' go," says one,
  "Then to your left hand look,
And there a yellow house you 'll see,
  And there lives Mr. Cook."

A stranger to a native says,
  "I pray you tell to me,
If it so be that you should know,
  Where Palmer's store may be."

"You straight along by MacIntire's,
Far as the hay-scales go,
And then a building white you see
For Palmer's store you 'll know."

"But where is MacIntire's?" he says.
"The Court-house next below."
"But where the Court-house is?" he says,
"For that I do not know."

"The Court-house — you don't know — but stay,
I 'll tell you what to do,
Just ask in Farwell's shop the way,
And they 'll show it to you."

"What! Farwell's you don't know,
And good Miss Catharine Stone?
Well, then, I 'll tell you, you ought not
To go about alone.

"You 're the first man I ever saw,
That Farwell's did n't know,
And everybody else, I 'm sure,
Would also tell you so."

Now, reader, for a little walk,
Perhaps with me you 'll go,
And ancient landmarks by the way
Our progress on shall show.

Now Concord turnpike, we all know,
Doth o'er the Common stretch;
We walk on that till us it doth
To an old elm-tree fetch.

This elm now old and shattered stands,
As we may plainly see,
Upon the road which upward leads
Unto Menotomy.

Now down along this road we go,
Unto the burying ground,
Which by a mossy old board fence
Is circled all around.

Next Reemie's barber shop we pass,
  Close to the burial ground,
And from it issues to the ear
  A squawking parrot sound.

Next pass we Captain Stimson's house,
  A stout and loyal man,
And thence it was that in our time
  The college wood-cart ran.

Next comes the den, — a lonely house,
  Of superstitious name,
Although to it no proper ghost
  Is credited by fame.

Now down in town we fairly come,
  And here the Law School stands,
Where busy students use their heads,
  As other men their hands.

In summer time the students few
  Would sit upon the fence,
And this, perhaps, was studying law,
  But not in legal sense.

The court-house and the market-house
  We leave on either hand,
And safe arrived we comfortably
  At Farwell's corner stand.

Suppose that now we Brightonward
  A little onward go,
That I to you a place or two
  For you to note may show.

And here we come to Warland's shop,
  'T was here in seventy-five
That little Joe, the 'prentice boy,
  From war escaped alive.

From upper window little Joe
  With curious peeping eye
Lord Percy and his thousand saw
  With drum and fife march by.

Then he unto himself did say,
  And fearfully did quake,

"These soldiers come with fife and drum
My precious life to take."

Then down the cellar quick he dived
And all concealéd lay,
And thus to tell me he survived,
What I tell you to-day.

Now Porter's on the right we pass,
That old established inn
Where solid comfort very much,
And liquid too, hath been.

And in his office, on the left,
There sits our man of law,
In any kind of document
Prepared to find a flaw.

And next to him old Jacob Smith
Hangs out a Golden Shoe,
Which truly 't was a costly thing
For Jacob Smith to do.

And now we at the corner stand
Of the Old Market-place;
The Boston road doth lie behind
And Watertown we face.

At the next corner stood a house
Which we remember well,
And in it dwelt the little maid
Of whom I am to tell.

Here lived a doctor, at the time
When rose contention hot
'Twixt those who liked things as they were
And those who liked them not.

The doctor was a Tory called,
And when the war began
He was, with soldiers in his house,
A sore afflicted man.

At every place about the house
A sentinel was set,
A fearful man to look upon
With gun and bagonett.

And even at the very well
  Whoe'er would water draw
The countersign must duly give,
  Or bide by martial law.

The doctor had a little girl,
  A maid of seven or eight,
On whom these dreadful soldier men
  Had made impression great.

To the stern sentry she scarce dared
  To raise a fearful eye,
And always as she passed she made
  A reverent curtesy.

The war passed on, — the troops had gone
  Unto another place,
And now our little maiden skipped
  And ran her natural pace.

Now so it was our little maid
  Was on an errand sent
A little way down Charlestown road,
  And trippingly she went.

But presently, at her right hand,
  She saw by twilight dim
A dreaded sentry-box to stand,
  All soldier-like and grim.

Hard beat our little maiden's heart,
  And suddenly she stopped,
And to the empty sentry-box
  A little curtesy dropped.

THE GENESIS OF THE CELEBRATION.

THE movement for a proper celebration of the completion of fifty years of the corporate life of Cambridge originated in the Citizens' Trade Association. The following extract is made from the record of the meeting of the Association held on June 19, 1895.

"The committee on public affairs reported the following resolutions, which were adopted.

"*Whereas*, the City of Cambridge, settled in 1630 and incorporated in 1846, will, in the next few months, round out the first fifty years of its corporate existence,

"*Resolved*, That it is the sentiment of this Association that there should be a public observance of the semi-centennial anniversary of the incorporation of the City of Cambridge, during the month of March, 1896; and be it further

"*Resolved*, That a committee of five members of this Association, including the president, be appointed by the president of the Association for the purpose of calling a public meeting, at which a general citizens' committee may be appointed to take charge of the arrangements for the anniversary celebration; and be it further

"*Resolved*, That the city council be requested to appoint a committee to coöperate with the citizens' committee, that the celebration may be wide in its scope and representative in its character."

The president appointed Messrs. J. J. Kelley, George H. Cox, Dr. Charles Bullock, and John Hopewell, Jr., as the other members of the committee.

A public meeting was called, a citizens' committee appointed, and a communication sent to the city council.

From the records of the city council.

Ordered, That a joint special committee be appointed to coöperate with a committee of citizens appointed at a public meeting, for the purpose of making arrangements for a suitable public observance of the fiftieth anniversary of the incorporation of the City of Cambridge, during the month of March, 1896.

Said committee to consist of one alderman and two members of the common council from each ward, including the president of each board; also, that His Honor the Mayor be requested to act with the committee.

Adopted, and Aldermen Keith, Wood, Bradford, and Rourke, and the president appointed on the part of this board.

Sent down for concurrence.

Concurred, October 15, 1895.

Councilmen Reid, Beedle, Davis, Odiorne, Ahern, Willard, Allen, Whitmore, Parry, and Apsey appointed.

October 16, 1895. Approved.

To the Joint Special Committee on Anniversary Celebration.

Communication from the Mayor transmitting one from the president of the citizens' committee on the proposed anniversary celebration.

Sent down for concurrence.

Concurred, October 29, 1895.

Ordered, By authority of Chapter 166 of the Legislative Acts of the year 1892, that the sum of five thousand dollars ($5,000) be and hereby is appropriated for the purpose of the proper observance of the fiftieth anniversary of the incorporation of the city. The sum so appropriated to be included in the annual estimate for incidental expenses for the current year, when the same shall be made.

Adopted by a yea and nay vote as follows: —

Yea, Aldermen Bleiler, Bradford, Conant, Cutter, Keith, Stearns, White, Wood, and Mr. President.

Nay, none. Aldermen Douglass and Rourke absent.

Sent down for concurrence.

Concurred, January 6, 1896. January 7, 1896. Approved.

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I.

THE BEGINNINGS OF CAMBRIDGE.

By JOHN FISKE, Litt. D., LL. D.

When, in 1630, the Company of Massachusetts Bay transferred itself from London to Massachusetts, bringing its governor, John Winthrop, and its charter, the movement was so popular in England that more than a thousand persons came over in the course of that year; and before ten years had elapsed, more than twenty thousand had come to stay. The first settlements of the Winthrop party were scattered about the coast near Charles River, making the beginnings of Charlestown, Boston, Dorchester, Roxbury, and Watertown. Among these places Boston was clearly marked for preëminence by its geographical position, but it was not at first the intention of the Company to make it the seat of government. A position somewhat further inland would be more easily defensible against the enemy from whom most was to be feared, — not the Indians, but the war-ships of King Charles. The transfer of the charter, which practically metamorphosed a powerful trading company into a semi-independent republic, was not likely to be regarded with favor by the Crown. In point of fact, we know that by 1635 Charles was intending to suppress the Company. He would very likely have carried out his intention, if affairs in Scotland had not suddenly absorbed his energies. After the tumult at St. Giles's church in Edinburgh in 1637, when the old woman threw her camp-stool at the bishop's head, the charter of Massachusetts was safe for many a year to come; but before that time the settlers had much reason for regarding it as in danger.

The situation of Watertown was a little too far inland for convenience, but a position on Charles River somewhat lower than Watertown would be far less accessible to war-ships — either English or foreign — than the peninsulas of Boston and Charlestown, while by palisades to the north and west it might

be made to serve as a frontier defense against the red men. "Wherefore," says Edward Johnson, "they rather made choice to enter further among the Indians than hazard the fury of malignant adversaries who in a rage might pursue them, and therefore chose a place situate on Charles River, between Charles Towne and Water Towne, where they erected a town called New Towne, now named Cambridge, being in form like a list cut off from the broadcloth of the two fore-named towns, where this wandering race of Jacobites gathered the eighth church of Christ." The desirable spot, which we now know as Old Cambridge, was selected on the 28th of December, 1630. It was agreed that the governor, deputy-governor, and all the assistants (except Endicott, already settled at Salem, and one other who was about to return to England) should build their houses there during the following year, and that all the ordnance and munition should be moved thither. This agreement was not carried out, save by Thomas Dudley, the deputy-governor, who built his house in 1631, on the site which is now the northwest corner of South and Dunster streets, and his son-in-law, Simon Bradstreet, who built upon the Boylston Street corner of Harvard Square. Upon that familiar site may very likely have begun the literary activity of New England, with some of those ponderous verses of Mrs. Bradstreet's, concerning which Rev. John Norton once said that if Virgil could only have seen them he would have thrown his own heathen doggerel into the fire! Winthrop and the other members of the council never came to dwell in the New Town, and the intention of making it the seat of government was gradually abandoned. The General Court was assembled first at Charlestown in the summer of 1630; then at Boston until May, 1634; then at the New Town until May, 1636; then at Boston, and back again at the New Town from April, 1637, till September, 1638; and always thereafter at Boston, until the stormy days that ushered in the Revolution.

The original New Town — or what we might perhaps call "Oldest Cambridge" — was comprised between Harvard Square and the river, from Holyoke Street on the east to Brattle Square on the west. By 1635, the streets now called Mount Auburn, Winthrop, South, Holyoke, Dunster, and Boylston had come into existence within these limits. The northern frontier street, upon the site of Harvard Street and Harvard

Square, was called Braintree Street. A road upon the site of the lower end of Brattle Street with Brattle Square was known as Creek Lane, and it was continued in a southeasterly sweep into Boylston Street by Marsh Lane, afterwards called Eliot Street. On the north side of Braintree Street, opposite Dunster, and thence eastward about as far as opposite the site of Linden, stood a row of six houses, and at their back was the ancient forest. Through this forest ran the trail or path from Charlestown to Watertown, nearly coinciding with the crooked line Kirkland-Mason-Brattle-Elmwood-Mount Auburn; this was the first highway from the seaboard into the inland country. The palisaded wall, with its ditch, for defense against Indians and wolves, started at Windmill Hill, by the present site of Ash Street, and ran along the northern side of the present Common into what is now Jarvis Field, and perhaps beyond.

A writer in 1633 mentions the New Town as "too far from the sea, being the greatest inconvenience it hath." He describes it as "one of the neatest and best compacted towns in New England, having many fair structures, with many handsome contrived streets. The inhabitants, most of them, are very rich, and well stored with cattle of all sorts, having many hundred acres of land paled in with general fence, . . . which secures all their weaker cattle from the wild beasts."[1]

The common grazing-land covered the site of the present Common, and extended beyond the palisade as far as Linnæan Street. It was at the outset directed that houses should be built within the "Town" until it should be properly filled, before going beyond. By 1635, there were sixty-four house-lots within the Town, of which about fifty had homesteads built upon them. The region next occupied by dwellings was the "West End," extending between Garden Street and the river, as far west as Sparks Street. To provide against the building of cheap and frail structures, it was agreed in 1633 that all houses should be covered with slate or shingles, not with thatch. Before the end of 1635, there were at least eighty-five houses in the New Town.

Eastward from Holyoke (then called Crooked) Street ran Back Lane, while Braintree Street, deflecting southeastward, took the name of Field Lane. These two lanes, meeting near the present junction of Bow and Arrow streets, formed the

[1] Wood's *New England's Prospect*, p. 45.

"highway into the Neck," running eastward as far as the site of Washington Square. Under the somewhat vague phrase, "The Neck," was comprised the territory now covered by Cambridgeport and East Cambridge. It was divided into arable lots, and parceled among the inhabitants in severalty. The western part was cut up into small portions of from one to three acres, but to the eastward of the site of Hancock Street it was granted in large farms of from twenty to sixty acres. This region of the Neck was marked off and protected by a paling which ran — to use modern names — from Holyoke Place to Gore Hall, and thence to the line between Cambridge and Somerville at Line Street near Cambridge Street.

Thus we find in the beginnings of Cambridge clear traces of the ancient English method of forming a town, with its threefold partition into town mark, arable mark, and common. At a later time a second arable portion was inclosed between Garden Street and Vassall Lane, westward from Wyeth Street to Fresh Pond meadows; this was known as the "West Field." And there was yet another, a little to the north of the Palfrey estate on Oxford Street, and known as "Pine Swamp Field." Extensive marshes stretched along the bank of the river from the vicinity of Mount Auburn to East Cambridge. Along the west side of Brattle Square ran a small creek, which curved southwestward through marshes, inclosing Eliot and South streets, and emptying into Charles River near the site of College Wharf. This creek, deepened and widened into a canal, furnished access to the Town from the river, and at its mouth was a ferry, established in 1635, connecting with a road on the south bank through Brookline to Boston Neck. The only other communication with Boston was through Charlestown and by ferry to Copp's Hill. The inconvenience of depending solely upon ferries was soon felt, and by 1662 the Great Bridge was built, connected by a causeway with what we call Boylston Street, and leading across to what we call Allston. There was no other bridge until the one from East Cambridge to Charlestown was finished in 1786, soon to be followed by West Boston Bridge in 1793, which wrought a great change in the facing of Cambridge toward Boston. Throughout the seventeenth and eighteenth centuries the true river front of Cambridge was at the Great Bridge. The filling in of Back Bay, the westward expansion of Boston, and the completion of Harvard Bridge in 1890, have been steps toward restoring the ancient frontage.

The first Meeting-House stood on the southwest corner of Dunster and Mount Auburn streets. It was soon found too small and flimsy, and in 1650 a better one was built at the southwest corner of the College Yard, nearly on the site of Dane Hall. From 1650 to 1833 that spot was occupied by the Meeting-House of the First Parish. The space between the sites of Church and Garden streets was inclosed as a graveyard or God's Acre in 1636. Of next importance to the church, in a New England town, was the Town-House. In early times the Meeting-House was commonly used for civil as well as ecclesiastical purposes, and there the town-meetings were held. In Cambridge a Court-House, built in 1708, was used also as a Town-House; it stood in the middle of Harvard Square, near the waiting-place of the Broadway and East Cambridge cars.

Winthrop Square was an open market-place, and on its west side after 1660 stood the jail. The place of execution, or "Gallows Lot," was at the extreme end of the Common, on the northwest corner of Linnæan Street and North Avenue. There in 1755 an old negro woman named Phillis was burned alive for murdering her master, Captain Codman, of Charlestown.

In bringing together the various topographical features of Old Cambridge in its early days, the strict sequence of chronology has been to some extent disregarded. We may now return to the year 1632, when the Court of Assistants imposed a tax of sixty pounds sterling upon "the several plantations within the lymitts of this pattent towards the makeing of a pallysadoe aboute the Newe Towne." Here the men of Watertown protested, and refused to pay their share of the tax because they were not represented in the body which imposed it. The ensuing discussion resulted in the establishment of a House of Deputies, in which every town was represented. Henceforth the Council of Assistants in conjunction with the House of Deputies formed the General Court of Massachusetts Bay. Thus the building of a wooden palisade from Ash Street to Jarvis Field furnished the occasion for the first great assertion of the principles of constitutional law and free government in New England. Two years before the issue of that illegal writ of ship money, which it is John Hampden's glory to have resisted, did these "village Hampdens" of Watertown utter their memorable protest.

In the summer of 1632, a congregation from Braintree in

Essex came over to Massachusetts and began to settle near Mount Wollaston, where they left the name of Braintree on the map; but in August they removed to the New Town, where Braintree Street took its name from them. Their pastor, the eminent Thomas Hooker, who had been obliged to flee to Holland, arrived in the course of the next year. This accession raised the population of the New Town to something like 500 persons. But the new-comers were not satisfied with things as they found them, and by 1634 we begin to hear them talk about going elsewhere. Some bold explorers had penetrated far west, even to the Connecticut valley, and brought back glowing accounts of its fertility and beauty. Hooker's people declared that there was not room enough in the New Town for their cattle, and they wished to go and take possession of the Connecticut valley and keep out the Dutch, who had set up a claim to it. Besides these specific reasons they alleged in general "the strong bent of their spirits to remove thither."

In this scheme of removal there is no doubt that "more was meant than meets the ear." It has been surmised that it was rather the pastor than the cattle that was cramped for room, for one small colony could hardly be expected to hold two such potent and masterful spirits as Thomas Hooker and John Cotton. But the root of the trouble was evidently something deeper and more important than personal jealousy. The colony in Massachusetts Bay had adopted the policy of restricting the suffrage to members of the Congregational church. This policy was primarily intended to keep out Episcopalians and other "malignants." The subsequent conduct of Hooker's people shows that they disapproved of it. No other ground of difference between them and their neighbors was nearly so important as this, but both Hooker and Governor Winthrop were great men, and too discreet to indulge in a controversy that would breed schism and bitterness. Some objections were raised to "removing a candlestick," but the candlestick would not stay. In the course of the year 1635 began the exodus from the Charles River to the Connecticut. In June, 1636, Mr. Hooker went with most of his congregation and founded Hartford, while the congregations of Dorchester and Watertown founded Windsor and Wethersfield. The exodus from the New Town was so great that of the families dwelling there in January, 1635, not more than eleven are known to have remained until the end of 1636.

But the places of those who departed were filled without delay. In the autumn of 1635, Rev. Thomas Shepard arrived from England with his congregation, and forthwith the meeting-house and the dwellings of the old company were occupied by the new. The next year saw the little colony convulsed by the religious teachings of Mrs. Anne Hutchinson, who dwelt, with her large family, on the site of the Old Corner Bookstore in Boston. This brilliant woman won over, at least partly, to her views, John Cotton, the teacher of the Boston church, and Harry Vane, the youthful governor; while John Wilson, the pastor, and ex-Governor Winthrop were opposed to her. Over theological questions of "grace" and "works" civil dudgeon grew high, and when the freemen were assembled on the New Town Common, in the apple-blossom season of 1637, to elect their magistrates for the ensuing year, there was some fear of a tumult, until Mr. Wilson climbed into a gnarled and ancient oak-tree and made a sensible speech to the people. Winthrop was elected governor, and the Hutchinsonians were thoroughly defeated. In August, a synod, assembled in the meeting-house, condemned eighty-two opinions as blasphemous, erroneous, or unsafe. In November, the General Court summoned Mrs. Hutchinson to the New Town, and sentenced her to banishment from Massachusetts, with many of her friends and kinsfolk. In view of these proceedings, Shepard seems to have dreaded the displeasure of Vane, who had returned to England; for a moment he was inclined to follow in the footsteps of Hooker, whose daughter he had lately married, and lead his congregation to the beautiful hillside of Mattabeseck, on the Connecticut River below Wethersfield. But it was left for other settlers a few years later to occupy that spot and call it Middletown. Shepard remained in the New Town, and his presence there is believed to have shaped its destinies. For his "vigilancy" against heresies had been well proved in the Hutchinson controversy, and Cotton Mather tells us that "it was with a respect unto this vigilancy, and the enlightening and powerful ministry of Mr. Shepard, that, when the foundation of a college was to be laid, Cambridge rather than any other place was pitched upon to be the seat of that happy seminary: out of which there proceeded many notable preachers, who were made such by their sitting under Mr. Shepard's ministry."[1]

[1] Mather's *Magnalia*, III. v. 12.

The founding of Harvard College was, of course, the cardinal event in the history of Cambridge. In October, 1636, the General Court agreed to give £400 toward the founding of a college; in November, 1637, it was ordered that the college should be placed in the New Town. "And as wee were thinking and consulting how to effect this great work, it pleased God to stir up the heart of one Mr. Harvard (a godly gentleman, and a lover of learning, there living amongst us) to give the one halfe of his estate (it being in all about £1700) towards the erecting of a Colledge, and all his Library; after him another gave £300, others after them cast in more, and the publique hand of the state added the rest."[1]

Most of the clergymen who came to New England were graduates of Cambridge, and as soon as the New Town was designated as the seat of the college, people seem to have begun calling it Cambridge. In May, 1638, this change of name was sanctioned by the General Court, and in March, 1639, the name of Harvard was given to the college. For the college yard was taken the land between the Charlestown highway (Kirkland Street) and Braintree Street, the name of which was changed to Harvard Street. A fence and gate between the college yard and the graveyard, near the site of the present flagstaff, served to keep out of the village the cattle that grazed on the Common. Across Harvard Street (near Linden) was the east gate of the town; and where the palisade crossed the Watertown highway (Brattle Street) at Ash Street was the west gate.

In 1639, the first printing-press in America north of the city of Mexico was set up by Stephen Daye, at the west corner of Dunster Street and Harvard Square. Among its earliest productions were Peirce's New England Almanack, and the Bay Psalm Book, and there was afterward printed that monument of labor, Eliot's Indian Bible.

The complaints of insufficient land led to extensive grants of territory, until from 1644 to 1655 Cambridge attained enormous dimensions, including the whole areas of Brighton and Newton on the south side of the river, and on the other hand in a northwesterly direction the whole or large parts of Arlington, Lexington, Bedford, and Billerica. In 1655, this vast area was first curtailed by cutting off the parts beyond Lexington. Then in 1688, Newton, which had been known as Cambridge Village

[1] *New England's First Fruits*, p. 12.

and sometimes as New Cambridge, became an independent township under name of Newtown. The Lexington area was known as "Cambridge Farms," but the founding of a church there in 1696 was the preliminary to separation, and in 1713 Cambridge Farms became a distinct town by the name of Lexington.

In 1754, the boundary between Cambridge and Watertown was carried westward about half a mile from its former position at or near Sparks Street, thus adding to Cambridge some of its most valuable area for dwellings. Between 1802 and 1820, other desirable acquisitions, including the Norton estate, were acquired from that part of Charlestown which is now Somerville.

After 1732, Menotomy was the Second Parish of Cambridge, until 1807, when it was incorporated a distinct town under the clumsy title of West Cambridge, for which the name Arlington was substituted in 1867.

After 1779, the territory remaining on the south side of Charles River was known as the Third Parish, or Little Cambridge, until 1807, when it became a separate town under the name of Brighton. In 1873, Brighton was annexed to Boston.

It was in the natural course of things that these outlying districts should with increase of population become organized at first into independent parishes and afterward into separate towns. In 1650, they were little else but wilderness. The palisades were needed to protect Cambridge from wild beasts much more than from any human foes. On February 13, 1665, we find the constables ordered "to allow Justinian Holden ten shillings towards a wolf, killed partly in Watertowne and partly in this." It would be interesting to know on just what principle the locality of that brute's death was divided. In 1690, the town treasurer allows £1 per wolf for 52 wolves killed by Englishmen, but an Indian for the same service gets only half price. In 1696, the reward for killing 76 wolves was 13*s.* 4*d.* per head. Bears also roamed in the woods, and persons were sometimes killed by them, but the appearance of a bear in 1754 in what is now East Cambridge was remarked upon as extraordinary.

The nearest Indian tribe dwelt to the west of Mystic Pond, and was governed by a squaw sachem. The land occupied by Cambridge was bought of this tribe, apparently for £10 beside

an annual present of a coat to the squaw sachem during her lifetime. The relations between white men and red men were friendly. In 1644, these Mystic Indians voluntarily put themselves under the protection and jurisdiction of the English government at Boston. Eliot's first sermon to the Indians was preached in 1646 at Nonantum, south of Charles River, and at that time within the limits of Cambridge. More than 1000 Indians in the country between Boston and Worcester came to profess Christianity, and it was hoped that Harvard College could be used effectively in civilizing them. But Harvard had only one Indian graduate, Caleb Cheeshahteaumuck, who received his degree in 1665 and died the next year. In the terrible crisis of King Philip's War some of the "praying Indians" found the ties of blood stronger than those of religion, and a fierce popular distrust was aroused against them. In the early spring of 1676, there was a feeling of alarm in Cambridge lest the town should be attacked, and timber was gathered for strengthening the fortifications, which had suffered from neglect; but the panic soon subsided, and after that year such dangers were removed to an ever receding frontier.

The settlers of New England dreaded heresy far more than they dreaded Indians, and in 1646 a synod of delegates from the colonies of Massachusetts, Plymouth, Connecticut, and New Haven was assembled at Cambridge, in order to define their creed and agree upon a system of church government. The work of the synod was finished in 1648. The Westminster Assembly's creed was adopted, as also a "platform of church discipline," known as the Cambridge Platform, upon which all the Congregational churches of New England were able to stand for the next four generations.

While the synod was in session the first permanent schoolhouse was built, on the west side of Holyoke Street, where it stood until 1769; for nearly another century its site was occupied by the printing-press long since famous as the University Press. The parsonage was built in 1670, on the north side of Harvard Street, with a glebe of about four acres attached to it. In 1680, the number of ratable polls was returned as 169, which indicates a population of about 850 souls in Cambridge. Their annual allowance for the parson was about £51 in cash and £78 in provisions, besides 20 loads of firewood and the use of house and land. The schoolmaster was paid about £20 a year.

In thus mentioning schoolhouse and parsonage, one nearly completes the outline picture of the little seventeenth-century town. But one other building, of high consideration and importance, calls for mention, to wit, the village ale-house. Our Puritan forefathers did not frown upon such good cheer as was there provided, but they took care that it should be dispensed by discreet and responsible persons. An innkeeper in those days must be a man of approved character, and the position was most respectable. We find that in 1652 "the townsmen do grant liberty to Andrew Belcher to sell beer and bread, for entertainment of strangers and the good of the town." The wife of this Andrew Belcher was sister of Thomas Danforth, the deputy-governor; their son, who also became mine host, was a member of the Council, and their grandson was Jonathan Belcher, royal governor of Massachusetts and of New Jersey. In 1671, at the northeast corner of Mount Auburn and Boylston streets, the first Belcher opened the famous Blue Anchor Tavern, which remained on that spot until 1737, when its sign was transferred to a more commodious house on the west side of Boylston Street, nearly opposite the recent site of the post-office. In a parlor of the Blue Anchor, the selectmen of Cambridge used to hold their meetings, in which the carking cares of public business were pleasantly assuaged with cool punch in the summer months and fragrant flip in winter.

The site of the worthy Belcher's first ordinary, before the Blue Anchor days, seems not to be known; and the more is the pity, for there we may be pretty sure that the regicide judges, William Goffe and his father-in-law Whalley, must at some time have found entertainment. From their arrival on the 27th of July, 1660, these men lived in Cambridge, without any attempt at concealment, until the 26th of the following February, when they deemed it prudent to retire to New Haven.

The regicides, like other visitors to Cambridge in those days, are likely to have been impressed with its tidy and comfortable appearance. In the tavern talk to which they listened, they may have heard that witchcraft, that torment of the Old World, had come to plague the New. For over in Charlestown a few years ago Margaret Jones had cured sick people without resort to bleeding or emetics, and when she was hanged for these diabolical practices, at the moment her soul quit the body there

was a gale in Connecticut that blew down trees. Then there was a Cambridge woman by the name of Kendall, who picked up the child of Goodman Jennison, of Watertown, and kissed and fondled it, and a few hours afterward the child grew pale and died; wherefore, as was natural, the witch Kendall was hanged on Gallows Lot.

Another topic for the Puritan ale-house would be the "damnable heresy" for which Mr. Henry Dunster, President of Harvard College, was censured by the magistrates and dismissed from office in 1655. This shameless Dunster had publicly denounced the practice of infant baptism as unscriptural. In spite of august synods, in spite of the "vigilancy" of Mr. Shepard and other learned parsons, it was impossible to keep the serpent of heresy out of this New World Eden. Had not those froward Quakers persisted in leaving Rhode Island, where they were hospitably treated, and coming to Boston, where they were not wanted? There was Mary Dyer, who had lately been hanged on Boston Common because she would not go away when told to; and then came Elizabeth Horton to disturb the peace of Cambridge by crying through the streets that the Lord was coming with fire and sword to judge his people, nor would she desist till she was flogged out of town at the cart's tail. Still worse: there was Benanuel Bowers, gentleman and land-owner (up north, near the Charlestown line), whom no threats could restrain from declaring himself a Baptist, and who for giving a glass of milk to starving Elizabeth Horton was fined £5. This bold Benanuel himself turned Quaker, and was for twenty years a thorn in the orthodox flesh of our little town. Over and over again he was fined 20*s.* for staying away from church, and now and then for entertaining Quakers at his house, £4 and costs. In 1677, for refusing to pay his fine, he was thrown into jail and kept there for more than a year. He solaced himself by writing verses, of which the following are a specimen, and sending them by his wife to Thomas Danforth, one of the magistrates: —

"It is nigh hard this fifteene years since first oure war begun
And yet the feild I have not lost nor thou the conquest wunn
Against thy power I have ingaged which of us twoo shall conquer
I am resolvd if God assist to put it to the venter
Both my person and estate for truth Isle sacrafise
And all I have Ile leave at stake Ile venter winn or loose," etc.

For these audacious sentiments Mr. Bowers was sentenced to pay £5, or take twenty stripes. A few weeks later, in the church one Sunday morning just after the benediction, we see him jumping up on the pew seat and haranguing the people with his tale of wrongs, despite the minister's angry protests, until presently the constables come in and drag the irrepressible Benanuel out of the sacred edifice. Such scenes were witnessed in Harvard Square two centuries ago. May all of us who hate oppression, and love independence of spirit, do honor to the memory of sturdy Benanuel Bowers.

In that same meeting-house in 1745 did George Whitefield's admirers wish to have him invited to preach, but the minister, Mr. Appleton, would in no wise give consent; so Whitefield spoke in the open air to a crowd that covered the Common. This preaching marked the downfall of the era of Puritan theocracy; and nothing more was needed to emphasize and accentuate that downfall than the introduction of the Church of England into Cambridge. Our story of the Beginnings of Cambridge may fitly close with the founding of Christ Church, hard by God's Acre, in 1759. A century after its founding there was hung in its belfry a chime of bells, and for many a year to come may their cheerful music

> "Ring in the valiant man and free,
> The larger heart, the kindlier hand;
> Ring out the darkness of the land,
> Ring in the Christ that is to be."

CAMBRIDGE TOWN, 1750–1846.

By ANDREW McFARLAND DAVIS.

The period in the history of Cambridge which we are about to consider naturally divides itself into two portions, the line of separation between which is furnished by the Revolution. The marked differences in the career of the town, caused by its change from a township in the Royal Province of Massachusetts Bay to one of the fundamental parts which constituted the State of Massachusetts, would attract the attention of the most casual observer. Geographically it had already been greatly reduced in area. During the period which we are considering it was to be still further curtailed by the incorporation of Brighton and West Cambridge as separate townships, while as a slight compensation the area along the river west of Sparks Street was to be taken from Watertown and added to the jurisdiction of Cambridge.

As we first view the town in 1750, there is much that is picturesque in the placid life of its inhabitants, who numbered perhaps 1500, and who were settled mainly in the neighborhood of the college. The outlying settlement at Menotomy had already taken its first step towards separate life as a township. It had been incorporated as a precinct, and a church had been regularly organized there. The interest taken by the inhabitants of the body of the town, in the struggle of the residents south of the Charles River for similar privileges, was far greater during the years of political inaction which preceded the attempts of Great Britain to tax the colonies than that produced by the slight participation of the town in the prolonged contest between the colonies and the French and Indians. As early as 1744, an attempt had been made to secure the necessary legislation for the establishment of a separate parish south of the Charles. Unsuccessful at that time, the petitioners renewed the contest in 1748, only to be defeated. In

the discussion that then took place, the members of the First Parish claimed that if the petition were allowed, compensation should be made by adding to the parish a number of families residing in Charlestown and Watertown, who had for years attended public worship in Cambridge.

In December, 1753, the question was again presented to the General Court, and again the petition for a separate precinct was dismissed. A petition made at the same time by the First Parish for the annexation to Cambridge of that portion of Watertown west of what we now know as Sparks Street, and south of Vassall Lane, extending to Fresh Pond, prevailed. The committee to whom it was referred reported, April 17, 1754, in its favor, and the next day an order to that effect was passed by the Assembly.

In 1758, the inhabitants south of Charles River again petitioned for a separate precinct. Consideration of this petition was postponed from time to time, but in March, 1760, a committee reported, recommending practically that it be granted, and that as a compensation, a part of the territory of Charlestown should be annexed to the First Parish. Action on this report was deferred until April 17, 1761, when it was submitted, but not adopted. A compromise measure offered the next day met a better fate. The residents south of the Charles did not secure their separate autonomy, but an annual allowance of £52 was granted them for the support of preaching in their meeting-house, and they were exempted from paying their proportion for the new meeting-house of the First Parish. A strip of land in Charlestown was at the same time annexed to the First Parish. This extended from the salt-water creek adjoining Lieutenant-Governor Phips's farm up to the Stone Powder-House, and thence to the Medford line. Unfortunately for Cambridge this annexed territory was not to become an integral part of the First Parish unless the inhabitants thereof should fail within two months to give security to the treasurer of the parish for the annual payment of their proportion of the charges of maintaining public worship in the parish, so long as they should attend worship there. The threat to these Charlestown people of being permanently attached to Cambridge, unless they should settle with the treasurer of the First Parish, apparently served its purpose, and this district remained a part of Charlestown.

The compromise with the inhabitants south of the river resulted in a truce, which lasted for sixteen years, but in 1774 they renewed their efforts for separation. The General Court, to which the petition was presented, was adjourned by General Gage to Salem before it was considered, and there is no reason to suppose that action could have been had upon it during the excitement of the brief session at that place.

In 1778, a new petition to the same effect was presented. This was met by a counter-petition presented by families living on the south side of the river, within easy distance of the First Parish Church, who protested against being compelled to sever their connection with that organization. On the first of May a bill was passed incorporating the precinct, but exempting from ministerial taxation therein certain of the protestants. Thus was this long protracted struggle concluded by the triumph of the separatists. Begun at a period when it was of the utmost importance to the townspeople and was the all-absorbing topic of local politics, it was continued during the passage of events which completely overshadowed it, and was concluded at a time when all thoughts were concentrated upon the impending struggle with the Mother Country. A separate church was founded in the precinct in 1783, and the parish was incorporated as the town of Brighton, February 24, 1807. Three days thereafter West Cambridge was incorporated as an independent township. The act under which this last was accomplished was not, however, to take effect until June 1, 1807.

The body of the town, as the central settlement was formerly termed, was in 1750 centred upon that part of the Common now called Harvard Square. Here were the church and the court-house standing side by side in open ground, part of which is now to be found in the square itself and the rest within the college yard. These buildings could either of them be used for town meetings, and Cambridge was therefore for a long while exempted from the necessity of erecting a separate town-house. The jail stood on the northerly side of Winthrop Street, between Winthrop Square and Eliot Street. In 1757, the county built a new court-house on the lot where Lyceum Hall now stands, and this structure was occupied for county purposes until the removal of the courts and records to East Cambridge in 1816, when both it and the Winthrop Street jail were abandoned. The burial ground adjoining the present First Parish Church was in 1750 the town burial ground.

LONGFELLOW HOUSE GARDEN. WINTER SCENE.

Provision for the support of the poor in private families was made in early times out of the town rate, and it was not until 1779 that an estate was secured by the town for a poorhouse. This property, which stood at the northeast corner of Brighton and South streets, was sold in 1786, and about five acres lying at the southwest corner of North Avenue and Cedar Street were purchased. A building called The Poor's House was erected thereon.

A new meeting-house for the First Parish, nearly on the site of the one then in being, was raised November 17, 1756. The first service was held in it July 24, 1757. The college contributed one seventh of the cost of its erection, and also, in consideration of the acceptance of certain conditions which it imposed relative to the interior construction, it relinquished to the parish a strip of land in order that the building might be set further back from the street than the site of the former house. It was in this church that Washington attended divine service when in Cambridge at the head of the army. It was here that the convention to frame a constitution for Massachusetts held its sessions in 1779. It was here that Lafayette was received in 1824, and here also, for three quarters of a century, the Commencement and other public exercises of the college were held.

The distribution of the population in the three parishes in 1750 is largely a matter for conjecture. We have, however, the means of forming an approximate opinion. In 1765, the inhabitants numbered 1571. Eleven years later, there were 1586. There can be but little doubt that in 1750 the population was in the neighborhood of 1500, of whom about one half lived in the body of the town, one third in Menotomy, and one sixth south of the Charles. Manufactures were unknown. Laborers found their way to their work without the aid of a chorus of dissonant whistles, nor were there other means at hand than the church-bell to rouse distant slumberers in case of fire at night. The bellowing of some sleep-destroying instrument was far more needed then than now, for Cambridge was dependent then upon the industry and perseverance of her citizens at large for checking the progress of her fires. The first trace which Mr. Paige finds of the organization of a fire company and the purchase of a fire engine was in 1803. Yet in the account of the burning of Harvard Hall in January, 1764, we learn that

Stoughton (the first of that name) and Massachusetts and Hollis were saved through the exertions of citizens, members of the General Court, and even of the governor himself, who, "notwithstanding the extreme rigor of the season, exerted themselves in supplying the town-engine with water, which they were obliged to fetch at last from a distance, two of the College pumps being then rendered useless." When was this engine purchased which is here alluded to as the town-engine? If we could ascertain, we could fix the birth of our fire department. Perhaps it was the engine belonging to Henry Vassall, which in 1755 he offered for the use of the town upon certain conditions. The town did not then accept the offer. Whether we have here a clue which will add to the years claimed for the life of our fire department or not, the scene presented to our view, of citizens and members of the provincial government, working side by side, passing buckets from the neighboring wells, in their efforts to prevent the conflagration from spreading to the other college buildings, is of great interest. The sight was to them a sad one. The collection of books which formed the library of the college, the philosophical instruments, the gifts of rare and curious objects, and the portraits which had been given to the college, fed the flames which the citizens were seeking to hold in check. Our interest in this scene is not confined to the lines of men passing water in buckets from distant wells to feed the feeble stream of the little tub which was at work trying to prevent the progress of the conflagration. The contrast with the rapid throbs of the powerful engines of to-day, which make the air palpitate for a mile from the fire where they are at work, is striking, but there is another feature which makes this scene memorable. Its position in time is at the end of the days of pastoral simplicity in Cambridge. It was not only the last occasion when royal officers and prominent citizens actually worked together with a common impulse, but it was close to the time when such coöperation was scarcely possible upon any point. The era of political activity was about to begin. The attention of the people of Cambridge was to be devoted to other topics than the protection of the First Parish. The arousing of that sentiment which led to the Declaration of Independence was accomplished in Massachusetts through the town organizations. In this work Cambridge, as a town, lent a hand, and there is scarcely a proceeding in the preliminary struggle which

is not illustrated by some vote recorded by the Cambridge town clerk.

The serenity of the town was but slightly disturbed by the indignation aroused by the arbitrary legislation of Parliament for the suppression of the Land Bank. Its interests were not seriously impaired by the enforcement of the navigation acts. There is no conspicuous record of the use of writs of assistance within its borders; but from the time that the anger of the people of the province had determined them to oppose the Stamp Act, the record of the citizens of the town in opposition to the royal measures for raising revenue and enforcing parliamentary acts was bold and unyielding.

The outbreak in Boston, which resulted in the destruction of Hutchinson's house, was deplored by the inhabitants of Cambridge, and they voted in town meeting on the 29th of August, 1765, that they abhorred and detested such proceedings, and would use their utmost endeavors to protect the dwelling-houses and property of residents of Cambridge from such outrages. While they were thus outspoken in condemnation of the Boston mob, they were not ready to have the loss charged to the province, and instructed their representatives on the 14th of October to vote against any such proceeding. From this opinion, after the repeal of the Stamp Act, they receded, and at a town meeting in October, 1766, instructed their representatives to favor compensation to the sufferers from the public treasury. The Stamp Act itself they declared by a vote in the town meeting in October, 1765, to be an infraction of their rights, and they recommended their representatives to endeavor to secure its repeal, and to do nothing which should aid its operation.

In May, 1766, the representatives were instructed not to give their suffrage to office-holders, the purpose being to exclude from the council certain crown officers who were supposed to be too subservient to the royal interests. Deeming it important that the public should know what was under discussion in the Assembly, and in general what took place there, the representatives were instructed to endeavor to have a gallery constructed in the room where they were in the habit of meeting, to which the public should be admitted.

In 1767, the Townshend duties were laid by Parliament. The Massachusetts representatives sought coöperation both in England and in this country for their repeal. In May, 1768,

the governor required the House of Representatives to repeal the resolution by which they had appealed to the other colonies for aid in this behalf, and when this was refused, he dissolved the General Court. Rumors followed this act that more soldiers were to be stationed at Boston. A town meeting was thereupon held in that place September 12, 1768, at which the inhabitants voted to request the governor to convene the General Court, and a committee was appointed to ascertain from him whether he expected the arrival of any more troops. The governor declared himself unable under his instructions to call a General Court. As to the troops, he said that his information that they might be expected came from private sources, and not from any official announcement. It was thereupon voted to call a convention of the several towns of the province, to be held September 22, in Faneuil Hall, to consult as to the measures for the peace and safety of the province. To this convention Cambridge sent two delegates. They were not chosen, however, until September 29.

In May, 1769, the governor once more convened the General Court, but they, immediately after organization, remonstrated with him for compelling them to hold their sessions in a place where a standing army was posted, and where there was a military guard with cannon pointed at the very door of the State-House, in which the session was being held. The governor replied that the only remedy at his command was to remove the General Court to a place where these objections would not apply, and he accordingly adjourned the session to Harvard College, in Cambridge.

On the evening of March 5, 1770, occurred the deplorable event generally spoken of as the Boston Massacre. In this affair Cambridge was not called upon to mourn the loss of any of her citizens, but from the Boston Records we learn that a message of sympathy was sent, and an offer of assistance if occasion should require.

In November, 1772, the famous Committee of Correspondence was organized for the purpose of stating the rights and grievances of the colonists. The circular letter and the pamphlet issued by the Boston committee were duly read at a town meeting held in Cambridge, December 14, and a committee was appointed on the part of Cambridge, which was instructed to acquaint the Boston committee that Cambridge would heartily

concur in all salutary, proper, and constitutional measures for the redress of the intolerable grievances which threatened, and which, if continued, would overthrow the happy civil constitution of the province. The committee was also instructed to take under consideration the infringements upon the rights of the people which were complained of, and to report at an adjournment of the meeting. It was also to prepare instructions to the Cambridge representatives. After a recess of a few minutes this committee submitted a report, in which a long and carefully prepared review of the situation prefaced instructions to the representative to use his greatest influence at the next session of the General Court for a speedy redress of all grievances. He was also recommended to ascertain if the salaries of the judges of the Superior Court were adequate, and if he found that they were not, he was to use his best endeavors to have them increased to an amount suitable for the position. The meeting then adjourned for three weeks. On the 28th of December, the committee placed itself in correspondence with the Boston committee, reporting the proceedings of the Cambridge meeting, and expressing full sympathy with the action taken by the Boston committee. On the 4th of January, 1773, the meeting was reconvened, and the committee then reported that the rights of the colonists were properly stated by the Boston committee, and that the alleged infringements and violations were notorious facts. They reported a resolve condemning the attempt to make the judges of the Superior Court dependent upon the Crown, by giving them fixed stipends, independent of the people.

The attempt to collect a duty on tea led to the agreement on the part of the patriots that they would no longer use the leaf. This duty was laid by Parliament in 1773. The dramatic method in which the inhabitants of Boston and vicinity resisted the attempts to land tea in that place marks a conspicuous point in the attempts of the colonists to resist the ministry in their efforts to raise money in the colonies by taxation. At a town meeting held in Cambridge November 26 of that year, which was described in the records as a "very full" meeting, the opposition of the town to the collection of this duty was set forth in great detail. The claim of Parliament to tax the colonists was defined to be a claim to levy contributions at pleasure. The duty on tea was, in the opinion of the people

of Cambridge, neither more nor less than a tax. The application of the money thus raised in support of the government would tend to render the Assembly useless. Every American should resist this plan of the ministers. The sending of the tea here by the East India Company, subject to the payment of duties, was an open attempt to enforce the ministerial plan, and a violent attack on the liberties of America. Every person who should aid, directly or indirectly, in unloading, receiving, or vending any tea subject to these duties, was declared to be an enemy of America. The factors appointed in Boston by the East India Company, who had been requested to resign this appointment, but who had refused to do so, had by this conduct forfeited all right to the respect of their fellow-countrymen. For this reason the town of Cambridge would not show them respect, but would view them as enemies of their country. Any person who should harbor these factors, unless they should immediately make full satisfaction to a justly incensed people, was declared to be unfriendly to his country. Any person who should import tea, subject to this duty, was said to be an enemy to be treated with the same contempt as the factors of the East India Company. And finally it was resolved "That this town can no longer stand idle spectators, but are ready, on the shortest notice, to join with the town of Boston, and other towns, in any measures that may be thought proper, to deliver ourselves and posterity from slavery."

On the evening of December 10, 1773, occurred the far-famed incident of throwing overboard in Boston harbor the cargoes of tea which had been forwarded to that port by the East India Company. Of the connection of Cambridge men with this event we have no record, but the effects were felt throughout the Province. The Boston Port Bill, through which Parliament sought to punish Boston for the destruction of the tea, received the royal assent March 30, 1774. The act took effect June 1, 1774, and for the time being the commerce of Boston was destroyed. Cambridge of course suffered from this proceeding, but on the 28th of July the town voted that the Committee of Correspondence should be a committee to receive and transmit to their destination gifts for the relief of their distressed brethren in Boston.

The next step resorted to by the British Parliament for bringing the recalcitrant colonists into line was the passage of the

act for the better regulation of the Province of the Massachusetts Bay. Among other changes made by this act, it was provided that the Council or Court of Assistants should be appointed by his Majesty with the advice of the Privy Council. The councilors thus appointed were termed Mandamus Councilors. Among them were three Cambridge men: Thomas Oliver, lieutenant-governor, and councilor by virtue of his office, Samuel Danforth, and Joseph Lee. The change in the method of creating the board was but one among many which this act effected, but unfortunately for these particular gentlemen, the offensive nature of their act in accepting an appointment under the circumstances was brought to the consideration of their fellow-citizens at a period of intense excitement. It appeared that Major-General Brattle, of Cambridge, had notified General Gage that the Medford selectmen had removed from the powder-house in Charlestown, now known as the Somerville Powder-House, a stock of powder belonging to the town, thus leaving only the powder which belonged to the province. On receipt of this information Gage sent out some troops, and brought in to Boston the powder from the powder-house, and from Cambridge two fieldpieces which had been sent there for Brattle's regiment. There was much speculation in Boston when the march of these troops became known, as to their destination, and word was sent to the neighboring towns that the expedition was under way, in order that they might be prepared for action. This movement took place on Thursday, September 1. The same evening a body of Cambridge citizens surrounded the house of Jonathan Sewall at the westerly corner of Sparks and Brattle streets, who was attorney-general and also, under the new plan, judge of the admiralty. With the exception that a few panes of glass were destroyed, nothing came of this gathering of the people. The next day, however, several thousands of the inhabitants of that part of Middlesex County gathered around the court-house in that portion of the Common now called Harvard Square. To them Judge Danforth and Judge Lee each made an address, stating their determination not to serve upon the new Council Board, and in confirmation of this conclusion each of them submitted in writing a copy of a written certificate to that effect, attested by the clerk of the court. The high sheriff of the courts, who was present, submitted a certificate in similar form, to the effect that he would

not execute any precepts under the new act of Parliament, and that he would recall the venires which he had already sent out. The clerk of the courts of Middlesex engaged to do no one thing in obedience to the new act of Parliament.

The meeting apparently adjourned from the Common to the residence of Lieutenant-Governor Oliver, on the westerly side of Elmwood Avenue, now known as the Lowell house, where the lieutenant-governor made a promise of a similar nature over his own signature, the concluding sentence in which is, "My house at Cambridge being surrounded by about four thousand people, in compliance with their command I sign my name, — Thomas Oliver."

There was but one other person with whom the people in their indignation had to deal, and that was General Brattle. He had apparently taken refuge in Boston, and from that place he wrote on the same day an explanatory and apologetic letter, in which he spoke of threatenings he had met, his banishment from his home, and the search of his house. He said he was sorry for what had taken place, and hoped that he might be forgiven.

It requires no demonstration to show that this was one of the most exciting days in the history of Cambridge. The temper of the people was incapable of being misunderstood. It does not appear that there was any collision with the troops, nor indeed could there have been any reasonable ground for opposing the removal of the powder which belonged to the province. It is obvious, however, that the 2d of September, 1774, just escaped the historic importance of the 19th of April of the succeeding year.

As a sequel to these events, the town held a meeting October 3, 1774, and instructed the representatives whom they had chosen for the General Court, which was to meet at Salem October 5, to act only with the council which had been chosen in May preceding. They were also authorized to represent the town in a Provincial Congress, and either as members of the Assembly or as members of the Congress, to consult with their fellow-members and determine what was most proper to deliver America from the iron jaws of slavery. This was of course revolutionary. The council, established by act of Parliament, was deliberately refused recognition, and the representatives were authorized to represent the town, in a body whose very

existence would be a blow to royal authority. That Cambridge was thoroughly in earnest in the stand thus taken, and was prepared to defend its position, is shown by a vote at the same meeting authorizing the selectmen to procure a carriage for the cannon belonging to the town, to purchase another cannon, and to furnish powder and balls for both.

The forethought of the town in providing the representatives to the General Court with alternative instructions to act as delegates to a Provincial Congress was justified by the event. Before the time arrived for the assemblage of the General Court, Gage prorogued that body, and the representatives, who reported at Salem, organized as a Provincial Congress. In the course of a few days they adjourned to Concord, and after a short session in that place adjourned to Cambridge, where they met October 17, and proceeded with their deliberations. Among other acts of the court at this session was the appointment of a Receiver-General of the province, to whom collectors were required to pay the province taxes. On the 28th of November, the town voted that if any person should refuse to comply with this act of the Provincial Congress, the town would consider him as operating with the enemies of the rights and liberties of this injured and oppressed people.

The second Provincial Congress met in Cambridge, on the 1st of February, 1775. The event is perhaps worthy of record in our annals, although nothing occurred at this brief session which called for special action on the part of the town. It was rumored in the early days of the session that Gage proposed to march to Cambridge at the head of his troops and break up the session, but events proved that it was only rumor.

The period of discussion was now over, and stirring times of action were near at hand. The opportunity has seldom been furnished a town to write its own history so completely as Cambridge has through the record of the votes at town meeting which has just been reviewed. Throughout all these preliminary steps in opposition to the assertion of parliamentary power over the province we trace the action of the town. When active military events supervene, the town as such no longer commands our attention, but our sympathy goes forth for the suffering of some individual inhabitant, or our pride is aroused by the heroic performances of some fellow-citizen.

It would be impracticable in this sketch to narrate in detail

the events that occurred in Cambridge on the 19th of April, 1775, which might arouse our sympathy and stir up our pride. This work has been performed with great fidelity by the historian of Cambridge, and to his pages readers must turn if they would learn the particulars of what our citizens did and suffered on that day. It will be sufficient for our purposes if we note that the path of the British troops, both going to and coming from Concord, lay through our territory. Twenty-six lives were lost within the boundaries of what then constituted Cambridge, six of which were of inhabitants of the town. The militia who followed the British troops in their retreat were marched to Cambridge, and were then ordered to lie on their arms.

For eleven months from that time Cambridge was occupied by the American army. The college buildings were made use of as barracks. The library and apparatus of the college were first removed to Andover, and then to Concord, where for a time instruction was given. The Episcopal church was converted into barracks, and many private houses were taken for the same purpose, or for hospitals. The headquarters of General Ward were in the house which stood nearly in front of the present Austin Hall, and was long familiarly known as the Holmes House. There the movement was planned which resulted in the battle of Bunker Hill. Cambridge was in close touch with that event, but the story of the battle must be sought in Frothingham's "Siege of Boston." The details concerning the life and death of Colonel Thomas Gardner, whom Cambridge was called upon to mourn that day, will be found fully set forth in Paige's "Cambridge." No man in Cambridge had been more completely identified with the several steps taken by the town in protest and defiance of parliamentary oppression. No man could more fittingly have exposed his life in defense of the local government, in the formation of which he had assisted, and of which he had from the beginning been a part. No life that was lost in that battle better conveys the lesson of devotion to principle and the cheerful surrender of life in its behalf.

On the 3d of July, General Washington assumed command of the army in Cambridge. His first headquarters were in the President's House, still standing in the college yard, on Massachusetts Avenue, and sometimes called the Wadsworth House.

After a few days they were transferred to the Vassall House on Brattle Street, afterwards called the Craigie House, but now generally spoken of as the Longfellow House. During the progress of the siege of Boston, Cambridge became a sort of fortified camp. The location of the several forts and the line of the breastworks have been preserved in maps and described by historians. Of these works, one alone remains. It stands at the foot of Allston Street. In 1858, it was restored to its original condition, and the entire site was surrounded with a substantial iron fence. Three cannon, the gift of the United States, were mounted in the embrasures, and there they stand to-day, perpetuating the memory that the current of the Charles was once navigable even for hostile vessels, but with muzzles pointed in the air as if intolerant of the pollution of the stream. There is perhaps a suggestion of fatigue and indecision in their attitudes, with their trunnions buried in gravel, and there are slight indications of a desire on their part for recumbency, as if they thought that Cambridge did not appreciate their watchfulness.

After March 17, 1776, when Boston was evacuated, Cambridge ceased to be involved in the military events of the Revolution.

It was a curious feature of the preliminary contest of the colonies with Great Britain, that the people constantly asserted their loyalty to the Mother Country; but contact with actual bloodshed and participation in active military measures in time destroyed all feelings of allegiance on the part of the citizens of Cambridge. On the 27th of May, 1776, they unanimously voted that the towns of the province ought to instruct their representatives to favor independence. The resolutions adopted at the time concluded with these words: "We the inhabitants of the town of Cambridge, in full town meeting assembled and warned for the purpose aforesaid, do solemnly engage with our lives and fortunes to support them in the measure." Massachusetts was already practically under a government of its own, organized at the suggestion of the Provincial Congress, in the manner prescribed by the charter for a General Court, but with no governor at its head. This General Court proposed to frame a constitution, but June 16, 1777, the town of Cambridge instructed its representative to oppose this movement, and when in 1778 a constitution framed by the General Court

in convention was submitted to the people, the inhabitants of Cambridge rejected it by a unanimous vote.

The convention which framed the constitution of Massachusetts that was afterwards adopted met in Cambridge September 1, 1779, and continued its sessions there until March 2, 1780. At a town meeting held in Cambridge May 22, 1780, the Declaration of Rights submitted by this convention was unanimously approved. To the constitution certain amendments were suggested, but the delegates were instructed to ratify it, whether these amendments were adopted or not.

During the thirty years which we have just considered, while there had been but little change in the population of the town, there had been a social development which has attracted considerable attention. Brattle Street as it now runs was open from Brattle Square nearly to Mount Auburn, and the property bordering upon it was owned by wealthy loyalists. This has given rise to the title, "Tory Row," by which their beautiful houses which are still standing have since been known. The picture of the social life of the inmates of these homes, as it has been handed down to us, is charming in the extreme. Nearly all of them passed into the hands of the Committee of Correspondence, and the revenue derived from them was appropriated for public service. Some of these estates were ultimately confiscated, but others were restored to the families of their former owners. The town was opposed to such returns, and, May 5, 1783, instructed its representative to vote against them.

In October, 1777, Burgoyne's troops were temporarily quartered in this town and vicinity. A part remained until the succeeding November. Burgoyne himself had quarters assigned him in the Borland House, on the easterly side of Dunster Street, about midway between Mount Auburn and Harvard streets. General Reidesel was quartered in the Sewall House, sometimes called the Lechmere House from a former owner. A part of this house still stands at the western corner of Reidesel Avenue and Brattle Street. It was while her husband was quartered there that Madame Reidesel gained the knowledge that enabled her to describe, in her letters, life in "Tory Row" before the war began. "Never have I chanced," she says, "upon such an agreeable situation."

We have now reached the period indicated at the beginning of this sketch as the point in the history of the town where a

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marked change in its career began. Down to this time there had been little or no fluctuation in the population. The number of inhabitants in 1776 was said to have been only 1586, and at that time both Menotomy and the parish south of the Charles were parts of the town. Cambridgeport and East Cambridge could have been described in 1780, in conveyancer's language, as woodlands, pastures, swamps, and salt marsh. The little village practically ceased at Quincy Street, and eastward between the mansion house of Judge Dana, on what is now called Dana Street, and Boston and Charlestown, there were in 1793, according to Rev. Dr. Holmes, but four dwelling-houses. On the 23d of November of that year, the West Boston Bridge was opened for public travel. Then began the growth which soon transferred the centre of population east of the college. The construction of the Craigie Bridge in 1809 largely contributed to this result also. Both of these bridges were originally private enterprises, their profits being dependent upon tolls. As the town increased, other bridges were built, partly on account of the growth of population, and partly for the purpose of bringing real estate into the market. Prison Point Bridge was constructed in 1815, under authority of an act passed in 1806. It was laid out as a county road in 1839. The bridge at the foot of River Street was completed in 1811, and was assumed by the town in 1832. The Western Avenue Bridge was built under authority of an act passed in 1824.

A glance at the streets and avenues which were laid out as feeders to the Boston bridges will show the important part played by these corporations in the development of the town. Radiating from Main Street (now Massachusetts Avenue) and covering the territory from the Charles River to the eastern boundary, we have as tributary to the West Boston Bridge, River Street, Western Avenue, Broadway, which was built as a continuation of the Concord Turnpike, Hampshire Street, which was a part of the Middlesex Turnpike, and Webster Avenue, formerly known as Medford Street. Tributary to Craigie Bridge, Cambridge Street was opened, crossing the Middlesex Turnpike, intersecting the Concord Turnpike, and connecting with the streets through which the Watertown travel could find its way to Boston. Rivalry between these bridge corporations was the basis of many a hard-fought battle, in connection with street openings.

The Craigie Bridge was but a part of a real estate speculation. The title to the greater portion of the property at Lechmere Point was absorbed by a company incorporated in 1810, as the Lechmere Point Corporation. At first sales of lots were sluggish, but a fair start was made in 1813, when the corporation agreed to convey to Middlesex County enough land for the county buildings, and to erect a court-house and a jail, satisfactory to the court, at an expense not to exceed $24,000. As may be conceived, this scheme was not carried out without opposition from the residents in the older part of the town. They were, however, powerless to prevent it. In 1816, the buildings erected for the county by the corporation were accepted, and the courts have held their sessions at East Cambridge since that date. This liberal contribution of land and money by the corporation was not thrown away. From the time of its acceptance by the county the success of the enterprise was assured. The purchase of a site in East Cambridge for their plant in 1814 by the Boston Porcelain and Glass Company added to this assurance.

Cambridge possesses several miles of water front. Its value for commercial purposes was greatly diminished by the fact that nearly all of it was marsh-land, which could only be made available for such uses through extensive means of preparation. That this could be accomplished was, however, recognized by the government in 1805, when Cambridge was declared to be a port of delivery. At that time it seemed quite probable that Boston and Charlestown and Cambridge might avail themselves of the great advantages offered by the protected inner basin called the Back Bay as a place for loading and discharging vessels of light draft. An extensive attempt was made to overcome the natural disabilities in the way of the development of the region near the foot of Main Street, by the construction through the intervening marsh between the river and dry land, of a main canal known as Broad Canal, which was also connected with Miller's River by another running north from it. The West Dock Canal, which was also connected with Broad Canal, was so constructed as to furnish a place for loading and discharging vessels in the area now surrounded by Portland and Bristol streets, Webster Avenue, and Hampshire Street. The South Dock Canal was a similar construction near the junction of Main, Harvard, and Sixth streets, and was connected with Broad by Cross Canal, and had also a separate outlet to the

river. The only existing reminder of this attempt to utilize our water front is Broad Canal itself, which is still used.

In 1830, an attempt to inclose the common lands of the town and convert them into a park met decided opposition from those who were interested in the Craigie Bridge, because it would divert the Concord Turnpike from direct connection with Cambridge Street. This opposition was seconded by the cattle-drivers, who wished to make use of these lands as a resting-place for their stock. There were several stormy town meetings, the attendance at which was so great that it was necessary to adjourn from the court-house to the church. Appeal was made to the county commissioners, the General Court, and even to the Supreme Court. Fortunately the Common was saved as a park, but the contest demonstrated the inadequacy of the old court-house for town meetings. East Cambridge had secured the county buildings and shown the vulnerability of the old part of the town. The Port determined to have the town-house. A lot of land containing about eleven acres, bounded by Harvard, Norfolk, Austin, and Prospect streets, had been secured in 1818 for an almshouse. On this land it was voted, in 1830, to erect a town-house, and in pursuance of this vote a wooden building was put up on the easterly part of the lot, in which, March 5, 1732, there was held for the first time a town meeting, and in which thereafter, so long as Cambridge remained a town, all such meetings were held. Thus was Harvard Square robbed of its last claim to be considered the centre of the town, with the exception that the First Parish Church still stood there. Even the prestige which attached to this fact had been greatly diminished through the withdrawal from the church of a majority of the church-members and communicants. This step was taken in 1829, in consequence of the conclusion by the parish that the ministration of Rev. Dr. Holmes could no longer be maintained with any possibility of advancing their religious interests. Those having the legal power to vote were therefore of opinion that there was sufficient cause to terminate the contract subsisting between the parish and the pastor. The cause of the trouble was purely theological. A majority of the parish were Unitarians. Dr. Holmes and his followers were Trinitarians. The latter organized a new society, which they called the Shepard Congregational Society.

In 1814, a new church had been organized, under the auspices

of the college. This was the first step towards a separation of the college from the town church. In 1833, the old meeting-house was abandoned, and a new building, situated on the westerly side of Harvard Square between Church Street and the burial ground, was dedicated to the uses of the congregation. The land on which the old building stood was surrendered to the college, which also bore a portion of the expense of the new building and retained certain rights in it. For forty years thereafter the annual exercises of Commencement were held in the new church.

It has been already stated that in 1818 land was purchased in Cambridgeport for an almshouse. A brick house was erected on it, which was first occupied in September, 1818. It was burned July 20, 1836, and temporary provision for the town's poor was made in a building on the north side of Main Street nearly opposite Osborn Street. This building was occupied until 1838, when the inmates were removed to a new brick almshouse on land on Charles River between Western Avenue and River Street, now a part of the Riverside Press.

The efforts to develop the growth of the town which were made in the early days of our independence have already been described. They were upon a scale of magnitude which, when we consider the circumstances under which they were accomplished, was surprising. Bridges, avenues and streets, turnpikes, and canals, all were directly in that interest. The population in 1790 was 2115. In 1810, notwithstanding the fact that Brighton and West Cambridge had in the mean time been set off, the census showed 2323 inhabitants. In 1840, there were 8409, and in 1850 there were 15,215. There must have been therefore in Cambridge in 1846 six times as many inhabitants as there were in Cambridge, Brighton, and West Cambridge in 1790. This growth was at a rate nearly three times that of the State at large during the same period. This prosperity resulted from protracted peace, and freedom from great political excitement. For many years after the organization of the state government there were but few events which interfered with it. It is true that the insurrection termed Shays's Rebellion, in 1786, paralyzed for the time being the progress of western Massachusetts, but Cambridge declined to participate in the convention which was called by those who inaugurated this movement. In 1807, too, there was a period of serious busi-

ness depression caused by the embargo. This was so severely felt by the town that in 1808 a petition to the President of the United States was adopted in town meeting, requesting a suspension in the whole or in part of the embargo laws. To this petition the President replied, saying that Congress alone had the power to modify the law under which the embargo proclamation had been issued. The War of 1812 followed. It continued the depression, and retarded the growth of Cambridgeport and East Cambridge. During these troubles the Cambridge Light Infantry was under arms for coast defense. The declaration of peace was the occasion of a great celebration by the town on the 23d of February, 1815. The disturbances referred to above, while they were felt to be serious when they occurred, serve only to emphasize the fact that in a general way the town was prosperous, and its progress, though retarded, was not stopped.

The growth of the manufactures of Cambridge does not belong to the period which we are now considering. The application of steam as a power for purposes of transportation, and as a substitute for wind or water in manufactures, was in its infancy. The New England Glass Company, established about 1814, and a few soap companies, constitute all the industries mentioned by Paige during this period, which were of real importance to Cambridge.

In matters of education, Cambridge had kept pace with her neighbors. Prior to 1800, the records are not clear as to the number and location of the schools, but Dr. Holmes states that at that date there were in the town besides the Grammar School, a little to the westward of the Episcopal church, two schools in each of the three parishes. There were, therefore, at that time, in Cambridge as now constituted, three schools. Mr. Paige gives the names of thirteen schoolhouses standing in 1845. He adds that the earliest record of the election of a school committee which he was able to find was in 1744. In 1834, the schools were graded. Mayor Green, in his inaugural address, in 1853, claimed for Cambridge the honor of having introduced this system into the Commonwealth, and of having carried it to its greatest degree of completeness.

Within the limits of what now constitutes Cambridge there was in 1750 a single church. Between that date and the incorporation of Cambridge as a city, seventeen religious societies

were organized, the details concerning which have been collated by Mr. Paige, and are to be found in his chapter on "Ecclesiastical History."

The parallel growth of three distinct centres within the limits of one town could not take place without raising questions as to the expenditure of the public money in the development of the different sections. Jealousies were inevitable, and the interests of the different sections seemed on the whole to be so marked and distinct in 1842, that the residents of Old Cambridge petitioned to be set off as a separate town. This movement was successfully opposed by the town as a whole, but it doubtless led to the suggestion of a city charter as a remedy. It is true that another attempt was made to divide the town while action on the city charter was pending, but the act to establish the City of Cambridge became a law March 17, 1846. Under this act Cambridge could not become a city, unless a majority of the inhabitants of the town should vote to adopt the act at a town meeting called for the purpose. Such a meeting was held March 30, 1846. A majority vote was cast in favor of adopting the city charter, and Cambridge became a city.

With this event the period to be treated in this sketch closes. It has not been possible to enter into any details as to the growth of our schools and our churches, nor could the attention of the reader be drawn to individuals of prominence whose names are associated with Cambridge as a town. These facts are all to be found in Paige's "Cambridge," a volume which must stand for all time as the authority for the history of the town of Cambridge. Upon it the writer of this sketch has depended for the greater part of the facts which he has selected to illustrate the career of the town.

LIFE IN CAMBRIDGE TOWN.

By THOMAS WENTWORTH HIGGINSON.

No town in this country has been the occasion of two literary descriptions more likely to become classic than two which bear reference to the Cambridge of fifty years ago. One of these is Lowell's well-known "Fireside Travels," and the other is the scarcely less racy chapter in the Harvard Book, called "Harvard Square," contributed by our townsman John Holmes, younger brother of "the Autocrat," — a man mentioned more than once in Lowell's prose and verse. Emerson said once of John Holmes that he represented humor, while his brother, Dr. O. W. Holmes, represented wit; and certainly every page of this "Harvard Square" chapter is full of the former and rarer quality. Charles Lamb's celebrated description of the Christ Church hospital and school of his boyhood does not give more of the flavor of an older day.

Those who refer to that chapter will see at the head a vignette of "Harvard Square in 1822, taken from a sketch made at the period." It seems at first sight to have absolutely nothing in common with the Harvard Square of the present day, but to belong rather to some small hamlet of western Massachusetts. Yet it recalls with instantaneous vividness the scenes of my youth, and is the very spot through which Holmes, and Lowell, and Richard Dana, and Story the sculptor, and Margaret Fuller Ossoli, walked daily to the post-office, or weekly to the church. The sketch was taken in the year before my own birth, but remained essentially unchanged for ten years thereafter, the population of the whole town having increased only from 3295 in 1820 to 6072 in 1830. The trees on the right overshadowed the quaint barber's shop of Marcus Reemie, crammed with quaint curiosities; and also a building occupied by the law professor, its angle still represented by that of College House. The trees on the left were planted by my own father, as were

nearly all the trees in the college yard, he being then the newly appointed steward — now rechristened bursar — of the college, and doing, as Dr. Peabody has told us, the larger part of the treasurer's duties. On the left, beyond the trees, stood the First Parish Church with its then undivided congregation, its weathercock high in air, its seats within each lifted by a hinge, and refreshing every child by its bang and rattle when dropped after prayer time. In the centre was the little Market House, which once gave the name of "the Market-Place" to what was later called, in my memory, "the village." In the cellar below this building was the oyster shop of the Snow brothers, described by Lowell in couplets of such wit that if they had been printed in some book of English University facetiousness — some "Oxford Sausage" or "Cambridge Garland" — they would have found a place in every collection of English verse. But the two indistinguishable brothers formed themselves a couplet quainter and neater than even their Laureate could furnish.

The only larger building fully visible in the sketch is the only one of these yet remaining, having survived its good looks, if it ever had any, and very nearly survived its usefulness. The rooms now occupied as the waiting-room of the West End Railway were then the bar-room and rear parlor of the Cambridge hotel; the two rooms being connected by a sliding panel, through which the host thrust any potations demanded by the guests in the parlor. There was held, in the rear room, I remember, a moderately convivial "spread" in 1840, given by the speakers at an "exhibition," — a sort of intermediate Commencement Day, long since discontinued, — in which I, as the orator of the day, was supposed to take a leading part, although in fact I only contributed towards the singing, the speaking, and the payment of the bills. At that time the population of the whole town had expanded to 8409, rather more than one third of this being in what is now Ward One.

It is hard to convey an impression of the smallness of the then Cambridge in all its parts and the fewness of its houses. The house in which I was born in 1823, and which had been built by my father, was that at the head of Kirkland Street, then Professors' Row, — the house now occupied by Mrs. F. C. Batchelder. The field opposite, now covered largely by Memorial Hall, was then an open common, where I remem-

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ber to have seen the students climbing or swinging on Dr. Charles Follen's outdoor gymnastic apparatus; or perhaps forming to trot away with him at double-quick, their hands clenched at their sides, across the country. The rest of the Delta was covered with apple-trees, whose fruit we boys used to discharge at one another from pointed sticks. Looking down Professors' Row we could see but four houses, the open road then proceeding to Somerville. On Quincy Street there was no house between Professors' Row and Broadway, and we used to play in what was said to be an old Indian cornfield, where the New Church Theological School now stands. Between Quincy Street and Cambridgeport lay an unbroken stretch of woods and open fields, and the streets were called "roads," — the Craigie Road and the Clark Road, now Harvard Street and Broadway, each with one house on what was already called Dana Hill. Going north from my father's house, there were near it the Holmes House and one or two smaller houses; up "the Concord Road," now Massachusetts Avenue, there were but few; the Common was unfenced until 1830; up Brattle Street there were only the old houses of Tory Row and one or two late additions. On the south side of Brattle Street there was not a house from Hawthorn Street to Elmwood Avenue; all was meadow-land and orchards. Mount Auburn Street was merely "the back road to Mount Auburn," with a delightful bathing place at Simond's Hill, behind what is now the hospital, — an eminence afterwards carted away by the city and now utterly vanished. Just behind it was a delicious nook, still indicated by one or two lingering trees, which we named "The Bower of Bliss," at a time when the older boys, Lowell and Story, had begun to read and declaim to us from Spenser's "Faerie Queene." The old willows now included in the Casino grounds were an equally favorite play-place; we stopped there on our return from bathing, or botanizing, or butterflying, and lay beneath the trees.

North Cambridge as yet was not, though Porter's Tavern was; and we Old Cambridge boys watched with a pleased interest, not quite undemoralizing, the triumphant march of the "Harvard Washington Corps" — the college military company — to that hostelry for dinner on public days; and their less regular and decorous return. The outlying settlement of East Cambridge, oftener called Lechmere's Point, was more rarely vis-

ited; but when we went to Boston it was by taking "Morse's hourly" and passing through the then open region, past Dana Hill, to the "Port," where we sometimes had to encounter, even on the stage-box, the open irreverence of the "Port chucks," who kept up a local antagonism now apparently extinct. Somehow, I do not know why, the Port delegation seemed to be larger and more pugnacious, as Dr. Holmes has pointed out, than the sons of professors and college stewards; and something of this disparity was found, even in Old Cambridge, between the "town boys," who represented the village contingent, and the "Wells boys," who were mostly the sons of the aforesaid college worthies, and who went to the private day-school and boarding-school of William Wells, in the rambling old house still occupied by his grandson, William Wells Newell, opposite Elmwood Avenue. I can well remember the wide berth I was accustomed to give, as one of the younger Wells boys, to our late excellent fellow-citizen, Alderman Chapman, the rather aggressive leader of the other party; and it was pleasant to me in later years, never quite outgrowing this early shyness in his presence, to see all spoilsmen and tricksters fighting equally shy of that admirable citizen.

It may be hastily assumed that in this primeval period Cambridge was the most decorous and orderly of villages. It would, perhaps, have been, but for one potent element of misrule, — something to which nothing of the present day can be in the least compared.

There are now about 3000 students resident in Cambridge. There were, by the catalogue of 1845–46, only 458. But of that 458, 132 were in the Law School, and of that number 57 were from the Slave States; and those few dozen unquestionably exceeded, in capacity of disorder, the whole 3000 of the present day. They indeed introduced, unaided, more elements of marked variety into Cambridge society than is now obtainable in the whole university. The difference between the richest "swell" in college to-day and the poorest "grind" is not to be compared with the difference in habits and bearing between the average Southern and the average Northern student, fifty years ago. These young men from Georgia and Mississippi had almost always fashionable clothes and attractive manners, were often graceful dancers, and took the lead in society; but they were very apt to be indolent, dissipated, quar-

relsome, and sometimes they were extremely ignorant. They were attracted here by the wide fame of Judge Story, and disappeared with the Civil War. There seemed to be almost no discipline in the Law School, — people spoke of "reading law," but not of studying law, — and the students of this description did very much what they pleased. When, after being absent from my native place for many years, I returned here to live, I asked Alderman Chapman why it was that there were no longer any street fights, as formerly, between the students and the young mechanics of the town. He said: "Those things stopped when the Southern law students disappeared. Hot-headed fellows; always getting into fights. I was in some of those fights myself." "Alderman," I said, "I have not the slightest doubt of it."

Some other bad practices have also disappeared, for which the Southern students were not altogether responsible. Although the average age of the undergraduates was then a year or two younger than now, — I was the youngest in my class and was not eighteen at graduation, — yet the moral standard was in some respects not so high as to-day. If there was not then more dissipation in proportion to the numbers, it certainly was more visible. Public opinion, even in college itself, would not now tolerate the spectacle already mentioned, of members of the "College Company" staggering out of the ranks and falling by the wayside, or of members of the graduating class clustered about Liberty-Tree, on the afternoon of Class Day, welcoming all other students to their buckets of punch. To quote Alderman Chapman once more, I asked him once how long since he had seen a Harvard student intoxicated, by daylight at least. I knew that his business called him through Harvard Square constantly. He said: "Hardly since I can remember;" when I said: "It was not so very uncommon in the little Harvard of our youth;" and he replied: "Certainly not." Of course it is to be borne in mind that access to Boston is now very much easier, and that convivial meetings occur there rather than in Cambridge; still the fact is of value. I should say in general that, even if the average standard of morality is no higher, the standard of gentlemanly conduct is very much higher; and this, with young men, provides a partial substitute for the other. In the more boyish class of offenses, such as the breaking of windows, the making of bonfires, and the hoot-

ing under the windows of unpopular instructors, there has been a change so great as to come near extinction. This is still more true of the robbing of hen-roosts and of market gardens, which would now be considered exceedingly bad form, but which was then a very common practice. I can recall members of my class, afterwards grave dignitaries, who used to go out in parties on autumn evenings with large baskets, and bring them back laden with apples, pears, grapes, and melons from the region now known as Belmont.

The social orders of Cambridge were, at least in the region of Harvard Square, more distinctly stratified than now; there was then a more distinct gentry, consisting largely of the college people and those who had come to Cambridge to educate their sons. In 1845–46, the whole number of resident instructors of all grades, including the Law and Divinity schools, comprised but twenty, instead of being counted as now by hundreds; but the families of those twenty were the social centre. I remember the perfectly courteous and dignified relation between these dignitaries and the Cambridge mechanics, whom it was common to hear praised as a rather picked class, and whose children and grandchildren are now themselves professors in the college or leading professional men. Lowell has testified to the magnificent manners of old Royal Morse, the Cambridge auctioneer, who proportioned each wave of his hat to the recognized social — that is academical — position of the person saluted. It seems to me that there must have been something English about it all, for I remember that in reading Irving's "Sketch Book" and "Bracebridge Hall," as a boy, I found nothing essentially unlike types known to me at home. Especially easy was it to identify his village monarch, "Ready Money Jack," with the broad shoulders and yeomanlike bearing of old Emery Willard, reputed the strongest man in the village, who kept the wood-yard just across Brighton Bridge.

In my memoirs of Margaret Fuller Ossoli I have attempted to sketch the cultivated women who lived in Cambridge and were a controlling power. Mrs. Farrar, Mrs. Norton, Mrs. Howe, Mrs. King, and others, — of whom Miss Fuller herself was the representative in the next generation, — and whom I was accustomed to seeing treated with respect by educated men, although these ladies themselves had never passed through col-

lege. Yet Radcliffe was anticipated in a small way by the advantages already held out to studious girls through the college professors; and my own elder sister studied Latin, French, Italian, German, and geometry with teachers thus provided. Some of these instructors were cultivated foreigners, who had been driven here as German or Italian reformers, and were glad to eke out the scanty salaries paid by the college. In all these social descriptions I have in view mainly the region now called Harvard Square, because I knew it best; although it is worth remarking that the finest library in all Cambridge — that since bequeathed by Thomas Dowse, the leather dresser, to the Massachusetts Historical Society — was in Cambridgeport, and was constantly shown to strangers as a curiosity; and that not far from it stood our one artist's studio, that of Washington Allston.

The children of Cambridge had the increased enjoyment of life that comes from country living. The farm of our old minister, Dr. Abiel Holmes, was next to our house, occupying all the ground now covered by the Hemenway Gymnasium, the Scientific School, the Jefferson Laboratory, and Holmes Field. There, with the dear old doctor's grandson, Charles Parsons, we boys of Professors' Row had the rural delights of husking corn and riding on the haycart. There were farms all over town, — all the way up the West Cambridge (Arlington) road, and also between Old Cambridge and Boston, with an occasional outbreak of ropewalks, spreading, like sprawling caterpillars, through what is now Ward Four. There were also some well-preserved revolutionary fortifications, — one remarkably fine one on what is now Putnam Avenue, — but these have now unfortunately vanished. There were ample woods for wildflowers, — Norton's woods and Palfrey's woods especially, — and I have deposited at the Botanical Garden my early botanical note-books, showing what rare wild-flowers, such as the cardinal flower, the fringed gentian, and the gaudy rhexia, once grew within the town limits. There were also birds now banished which I ineffectually vexed with bow and arrow, envying hopelessly the double-barreled gun — perhaps equally superfluous — of my elder brother. Often I have taken part in those May parties described so pityingly by Lowell in "Biglow Papers." We learned to skate on Craigie's Pond, to swim in

the then unpolluted Charles River, to row at Fresh Pond. We were without many things which now make the bliss of boys, — bicycles and kodaks and toboggans, — but after all, the Cambridge village of those days was a pleasant birthplace. Yet in what place is it not a happy thing for a boy to have been born?

THE GAMBREL-ROOFED HOUSE.[1]

By OLIVER WENDELL HOLMES.

ONE OF THE DELIGHTFUL PAPERS IN THE SERIES CALLED "THE POET AT THE BREAKFAST-TABLE" IS MAINLY DEVOTED TO A DESCRIPTION OF AN OLD CAMBRIDGE HOME NOW PASSED AWAY: THE FOLLOWING EXTRACTS ARE MADE FROM IT.

My birthplace, the home of my childhood and earlier and later boyhood, has within a few months passed out of the ownership of my family into the hands of that venerable Alma Mater who seems to have renewed her youth, and has certainly repainted her dormitories.[2] In truth, when I last revisited that familiar scene and looked upon the *flammantia mœnia* of the old halls, "Massachusetts" with the dummy clock-dial, "Harvard" with the garrulous belfry, little "Holden" with the sculptured unpunishable cherubs over its portal, and the rest of my early brick-and-mortar acquaintances, I could not help saying to myself that I had lived to see the peaceable establishment of the Red Republic of Letters.

The estate was the third lot of the eighth "Squadron" (whatever that might be), and in the year 1707 was allotted in the distribution of undivided lands to "Mr. ffox," the Reverend Jabez Fox, of Woburn, it may be supposed, as it passed from his heirs to the first Jonathan Hastings; from him to his son, the long-remembered College Steward; from him, in the year 1792, to the Reverend Eliphalet Pearson, Professor of Hebrew and other Oriental languages in Harvard College, whose large personality swam into my ken when I was looking forward to my teens; from him to the progenitors of my unborn self.

In the days of my earliest remembrance, a row of tall Lombardy poplars mounted guard on the western side of the old mansion. Whether, like the cypress, these trees suggest the

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[2] This was written in 1872.

idea of the funeral torch or the monumental spire, whether their tremulous leaves make us afraid by sympathy with their nervous thrills, whether the faint balsamic smell of their leaves and their closely swathed limbs have in them vague hints of dead Pharaohs stiffened in their cerements, I will not guess; but they always seemed to me to give an air of sepulchral sadness to the house before which they stood sentries. Not so with the row of elms which you may see leading up towards the western entrance. I think the patriarch of them all went over in the great gale of 1815; I know I used to shake the youngest of them with my hands, stout as it is now, with a trunk that would defy the bully of Crotona.

But I am forgetting the old house again in the landscape. The worst of a modern stylish mansion is, that it has no place for ghosts. Now the old house had wainscots, behind which the mice were always scampering and squeaking and rattling down the plaster, and enacting family scenes and parlor theatricals. It had a cellar where the cold slug clung to the walls, and the misanthropic spider withdrew from the garish day; where the green mould loved to grow, and the long white potato-shoots went feeling along the floor, if haply they might find the daylight; it had great brick pillars, always in a cold sweat with holding up the burden they had been aching under day and night for a century and more; it had sepulchral arches closed by rough doors that hung on hinges rotten with rust, behind which doors, if there was not a heap of bones connected with a mysterious disappearance of long ago, there well might have been, for it was just the place to look for them. It had a garret, very nearly such a one as it seems to me one of us has described in one of his books; but let us look at this one as I can reproduce it from memory. It has a flooring of laths with ridges of mortar squeezed up between them, which if you tread on you will go to — the Lord have mercy on you! where *will* you go to? the same being crossed by narrow bridges of boards, on which you may put your feet, but with fear and trembling. Above you and around you are beams and joists, on some of which you may see, when the light is let in, the marks of the conchoidal clippings of the broadaxe, showing the rude way in which the timber was shaped as it came, full of sap, from the neighboring forest. It is a realm of darkness and thick dust, and shroud-like cobwebs and dead things they wrap in their

Birth place of T. W. Higginson
Austin House 1657
Birth place of O. W. Holmes
Farm on the
E. E. Morton Estate
South Street

gray folds. For a garret is like a sea-shore, where wrecks are thrown up and slowly go to pieces. There is the cradle which the old man you just remember was rocked in; there is the ruin of the bedstead he died on; that ugly slanting contrivance used to be put under his pillow in the days when his breath came hard; there is his old chair with both arms gone, symbol of the desolate time when he had nothing earthly left to lean on; there is the large wooden reel which the blear-eyed old deacon sent the minister's lady, who thanked him graciously, and twirled it smilingly, and in fitting season bowed it out decently to the limbo of troublesome conveniences. And there are old leather portmanteaus, like stranded porpoises, their mouths gaping in gaunt hunger for the food with which they used to be gorged to bulging repletion; and old brass andirons, waiting until time shall revenge them on their paltry substitutes, and they shall have their own again, and bring with them the forestick and the back-log of ancient days; and the empty churn, with its idle dasher, which the Nancys and Phœbes, who have left their comfortable places to the Bridgets and Norahs, used to handle to good purpose; and the brown, shaky old spinning-wheel, which was running, it may be, in the days when they were hanging the Salem witches.

Under the dark and haunted garret were attic chambers which themselves had histories.

The southeast chamber was the Library Hospital. Every scholar should have a book infirmary attached to his library. There should find a peaceable refuge the many books, invalids from their birth, which are sent "with the best regards of the Author;" the respected, but unpresentable cripples which have lost a cover; the odd volumes of honored sets which go mourning all their days for their lost brother; the school-books which have been so often the subjects of assault and battery, that they look as if the police court must know them by heart; these, and still more the pictured story-books, beginning with Mother Goose (which a dear old friend of mine has just been amusing his philosophic leisure with turning most ingeniously and happily into the tongues of Virgil and Homer), will be precious mementos by and by, when children and grandchildren come along.

The rooms of the second story, the chambers of birth and death, are sacred to silent memories.

Let us go down to the ground floor. I should have begun with this, but that the historical reminiscences of the old house have been recently told in a most interesting memoir by a distinguished student of our local history. I retain my doubts about those "dents" on the floor of the right-hand room, "the study" of successive occupants, said to have been made by the butts of the Continental militia's firelocks, but this was the cause the story told me in childhood laid them to. That military consultations were held in that room, when the house was General Ward's headquarters, that the Provincial generals and colonels and other men of war there planned the movement which ended in the fortifying of Bunker's Hill, that Warren slept in the house the night before the battle, that President Langdon went forth from the western door and prayed for God's blessing on the men just setting forth on their bloody expedition, — all these things have been told, and perhaps none of them need be doubted.

It was a great happiness to have been born in an old house haunted by such recollections, with harmless ghosts walking its corridors, with fields of waving grass and trees and singing birds, and that vast territory of four or five acres around it to give a child the sense that he was born to a noble principality.

NOTE. — The Editor cannot resist the impulse to express his suspicion that the "ugly slanting contrivance," mentioned on page 45, was "the patent bedstead and the machinery pertaining to it," described in the records of the Cambridge Humane Society, of which Dr. Abiel Holmes was so long president, as having been bought in 1816. It is pleasant to believe that after a long and beneficent ministry to "the indigent sick," it found an appropriate resting-place itself in the Poet's garret. See page 270 of the present volume.

CAMBRIDGE COMMON.

By EX-MAYOR CHARLES H. SAUNDERS.

One of the most interesting spots in our historic city is the public Common in Ward One, situated on Massachusetts Avenue, with Harvard College on one side and Radcliffe College on the other. This tract of about ten acres was set apart by the Proprietors of Common Lands for public uses from the earliest settlement of the town. The title, however, was not formally transferred to the town until November 20, 1769, when at a meeting of the proprietors it was voted, "That all the common lands belonging to the Proprietors, fronting the College, commonly called the Town Commons, be and the same are hereby granted to the town of Cambridge to be used as a training field, to lie undivided and to remain for that use forever, provided, nevertheless, that if the said town should dispose of, grant or appropriate the same or any part thereof at any time hereafter, to or for any other use than that aforementioned, then and in such case the whole of the premises hereby granted to said town shall revert to the Proprietors granting the same, and the present grant shall thereupon be deemed null and void."

As early as 1636, the annual elections of the colony for the choice of Governor, Deputy-Governor, and Assistants were held under a large oak-tree which stood on the easterly side of the Common, opposite Holmes Place. One of the most remarkable of these elections took place May 17, 1637, the contest being between Governor Harry Vane and Ex-Governor John Winthrop. The day was clear and warm, when, at one o'clock in the afternoon, the freemen of the colony gathered in groups about this tree. Most of the noted men of the colony, including the magistrates and clergy, were among the large number present. Governor Vane, in English fashion, beneath the open sky, announced the purpose of the meeting to be the annual

election. Great excitement prevailed, and in the midst of the tumult, Rev. John Wilson, minister of the First Church in Boston, climbed the trunk of the wide-spreading oak, and, clinging to one of its branches, began vehemently to address the meeting, exhorting the freemen to look well to their charter and consider carefully the work of the day, which was the choosing of their magistrates. Governor Vane's party objecting to an immediate election, Winthrop, as deputy-governor, declared that the majority should decide, and put the question himself. A majority was clearly in favor of proceeding at once to an election. Governor Vane now gave way and allowed the election to proceed. It resulted in the complete defeat of Vane's party, and the youthful governor, disappointed and crestfallen, shortly after sailed for England, never to return. Vane was the youngest person ever elected governor of Massachusetts, having been but twenty-four years old at the time. On his return to England, he joined the party opposed to King Charles, and, soon after the Restoration, was tried for high treason and beheaded. It is expected that an oak will be planted this year by the Park Commissioners on the site of the original tree, thus adding one more instructive reminder of the early days of the colony.

In 1740, Rev. George Whitefield visited Cambridge, and, having been refused the use of the meeting-house, preached several times under a large elm-tree at the northwesterly corner of the Common, to audiences estimated at thousands, and ever after the elm was known as the "Whitefield tree." It remained standing until 1855, when it was removed by the city.

This Common was famous also as the place selected by the yeomanry of Middlesex on which to assemble on every occasion of public emergency. On Thursday, September 1, 1774, Governor Gage sent four companies of troops in thirteen boats up the Mystic River, and seized two hundred and fifty half-barrels of powder, being the whole stock belonging to the colony, in the old powder-house, still standing, at Medford, and removed it to Castle William, now Fort Independence, in Boston Harbor. A detachment also went to Old Cambridge and carried off two fieldpieces. These proceedings caused great indignation, and on the following day more than two thousand men of Middlesex assembled here to consult in regard to this insult to the people. From the Common they marched to the

court-house in Harvard Square, and compelled three councilors, Oliver, Danforth, and Lee, and the high sheriff of the county, to resign their offices.

On June 16, 1775, orders were given for one thousand men to parade at six o'clock in the evening on the Common, with packs and blankets, and provisions for twenty-four hours, together with all the intrenching tools in the Cambridge camp. That night, Colonel William Prescott, clad in a simple uniform, with a blue coat and three-cornered hat, took command. The men were drawn up in line and marched to the small common on Holmes Place. At a signal, amid profound silence, President Langdon of Harvard College, standing upon the steps of the Holmes mansion, the headquarters of the Committee of Public Safety, offered an earnest prayer for the success of the patriots. He closed as follows: "Go with them, O our Father, keep them as in the hollow of Thy hand, cover them with Thy protecting care, and bring them back to us victorious." At nine o'clock, without uniforms, and with no arms except fowling-pieces without bayonets, and with only a limited supply of powder and bullets, they marched in silence down the road to Charlestown for Bunker Hill. Two sergeants carrying dark lanterns were a few paces in front, and the intrenching tools in carts brought up the rear. Few of the men were aware of the object of the expedition until they halted at Charlestown Neck. Here Major Brooks and General Putnam joined them, and the main body, together with a fatigue party of two hundred Connecticut troops, marched over to Bunker Hill, and about midnight began their work.

This Common contained also the famous elm under which Washington took command of the Continental Army. On his arrival at Cambridge in 1775, he found upwards of nine thousand militia encamped here in tents, and occupying also the college buildings and Christ Church. On the morning of July 3, under escort of his staff and the officers of the army, Washington marched from what is now the old President's House in Harvard Square, then occupied as his headquarters, to the elm on the Common. The army was drawn up in line under command of General Artemas Ward, who read Washington's commission to the assembled multitude, and made proclamation of the same to the army. Washington then advanced a few paces, made a brief address, drew his sword, and assumed the com-

mand, which he held until the treaty of peace was signed, and the independence of the United States acknowledged by England.

In October, 1789, Washington, then President of the United States, made his last tour through New England. At Weston, October 23, he was met by a company of horse from Cambridge, and escorted to this Common. On arrival, he was saluted with salvos of artillery under charge of General Brooks, who met him at the head of about one thousand militia. Soon after, he left the Common, and proceeded to Harvard Hall, to meet the officers of the college, who had assembled to receive him.

One hundred years ago, the college Commencement was the great holiday of the State, and large numbers from the surrounding towns began to congregate here on the first day of the week. The Common was completely covered with tents, and every variety of show and exhibition, which continued for the entire week. This outside display greatly overshadowed the exercises of the college.

After much contention, authority was obtained from the General Court, June 5, 1830, to inclose and beautify these grounds. The work was completed at private expense in 1832. This Common, so finely located in the centre of a large and growing population, is justly the pride of the city. Its value for recreation and the health and comfort of our citizens can hardly be overestimated.

Upon the urgent appeal of the mayor of the city in 1868 and 1869, in both of his inaugurals, the city council decided to erect a monument upon the Common in honor of the soldiers and sailors of Cambridge, who gave up their lives in the War of the Rebellion. The corner-stone of the memorial was laid June 17, 1869, with appropriate ceremonies, the mayor making the principal address, after which the bells were rung and national airs played by the band and chimed upon the bells in Christ Church. The exercises were closed by the firing of a national salute. A roll of honor with the names engrossed on parchment, of all the men sent by Cambridge to the war, was deposited with other documents in the copper box in the corner-stone. The monument was finished the following spring, and dedicated July 13, 1870. The exercises included an address by the mayor and an oration by Rev. Alexander McKenzie.

On May 1, 1876, a centennial tree, raised from the seed of the Washington Elm by Mr. John Owen, was presented to the city, and planted on the westerly side of the Common with suitable exercises. Several thousand persons were present, together with the city government, and among the features of the occasion were an address by the mayor and an original hymn sung by the children of the public schools.

In 1882, a fine bronze statue of John Bridge, in Puritan costume, one of the most prominent of the early settlers of the town, selectman from 1635 to 1652, and representative for several terms in the General Court, and deacon of the First Church, was presented to the city by his descendant, Samuel J. Bridge, and erected in the northeasterly corner of the Common. It was dedicated November 28, after an interesting address by Colonel Thomas Wentworth Higginson and remarks by the mayor, President Eliot, and General Charles Devens.

Each Memorial Day finds a large concourse assembled around the soldiers' monument with the members of the various posts of the Grand Army, to listen to eulogy and song, while the early flowers of spring are liberally strewed about it. As the throng passes from this interesting spot, the question is often asked: "What is the history of these cannon that are grouped around the monument?" These three huge war-dogs came into the possession of the city by a vote of the legislature, passed March 31, 1875, as follows: "*Resolved*, That there be granted and transferred to the city of Cambridge the three old British cannon and their carriages now in the State Arsenal yard in said city, provided said city shall furnish a suitable platform for them in the Cambridge Common, the first camp ground of the Revolution, and keep said cannon thereon in good condition forever." These cannon were about to be transferred to the state grounds at Framingham, but the passage of this vote gave them a permanent place on the Common. Two of them are British guns, and have the broad arrow-mark of England. The other, probably taken at Quebec in 1745, is of French manufacture. All bear evidence of great age. They belong to those captured by Ethan Allen at Crown Point in 1775, which were ordered to be transported to Cambridge to be used in the siege of Boston.

General Knox was a great favorite of Washington, and to him was given the execution of the order to remove one hun-

dred of the heavy cannon, captured by Allen, from Crown Point to Cambridge. The cannon and mortars were loaded on forty-two strong sleds, and dragged slowly along by eighty yoke of oxen. The route was from Lake George to Kinderhook in New York, and thence by way of Great Barrington to Springfield, where fresh oxen were provided. The roads were bad, and the train could not proceed without snow. Fortunately, the roads soon became passable, and the strange procession wound its tedious way through the hills of western Massachusetts down to the sea. The cannon were too cumbersome for field use, but were especially adapted for siege-guns, which Washington stood greatly in need of for the seven miles of redoubts around Boston. After the British evacuated Boston, the cannon were left mounted in the forts overlooking the city, and these are the remnants of those Revolutionary relics. The French piece probably came into possession of the British at the conquest of Canada, and was transferred to Crown Point for its defense at the beginning of the Revolution.

We have thus in these cannon three valuable relics which, under Washington, were used for our defense, and they remind us forcibly of the remote past under the colonial government. Although unfitted for use in war, they have at last, by the courtesy of the State, found an appropriate resting-place, and are destined to keep peaceful vigil through the dim future over the first camp ground of the Revolution, — the spot where Washington and his generals organized that gallant army which, after years of struggle and vicissitude, won for the nation a glorious victory.

CAMBRIDGE A CITY.

By GEORGE RUFUS COOK.

"Dante might choose his home in all the wide, beautiful world; but to be out of the streets of Florence was exile to him. Socrates never cared to go beyond the bounds of Athens. The great universal heart welcomes the city as a natural growth of the eternal forces." — F. B. SANBORN.

"'Rome, Venice, Cambridge!' I take it for an ascending scale, Rome being the first step and Cambridge the glowing apex. But you would n't know Cambridge — with its railroad, and its water-works, and its new houses." — J. R. LOWELL. [1856.]

THERE were three memorable Cambridge days in 1846. On the 17th of March, Governor Briggs signed the legislative act, which incorporated the City of Cambridge. On the 30th day of the same month, the voters of Cambridge adopted this act. On May 4, the first city government was inaugurated, and the career of Cambridge as a chartered municipality began.

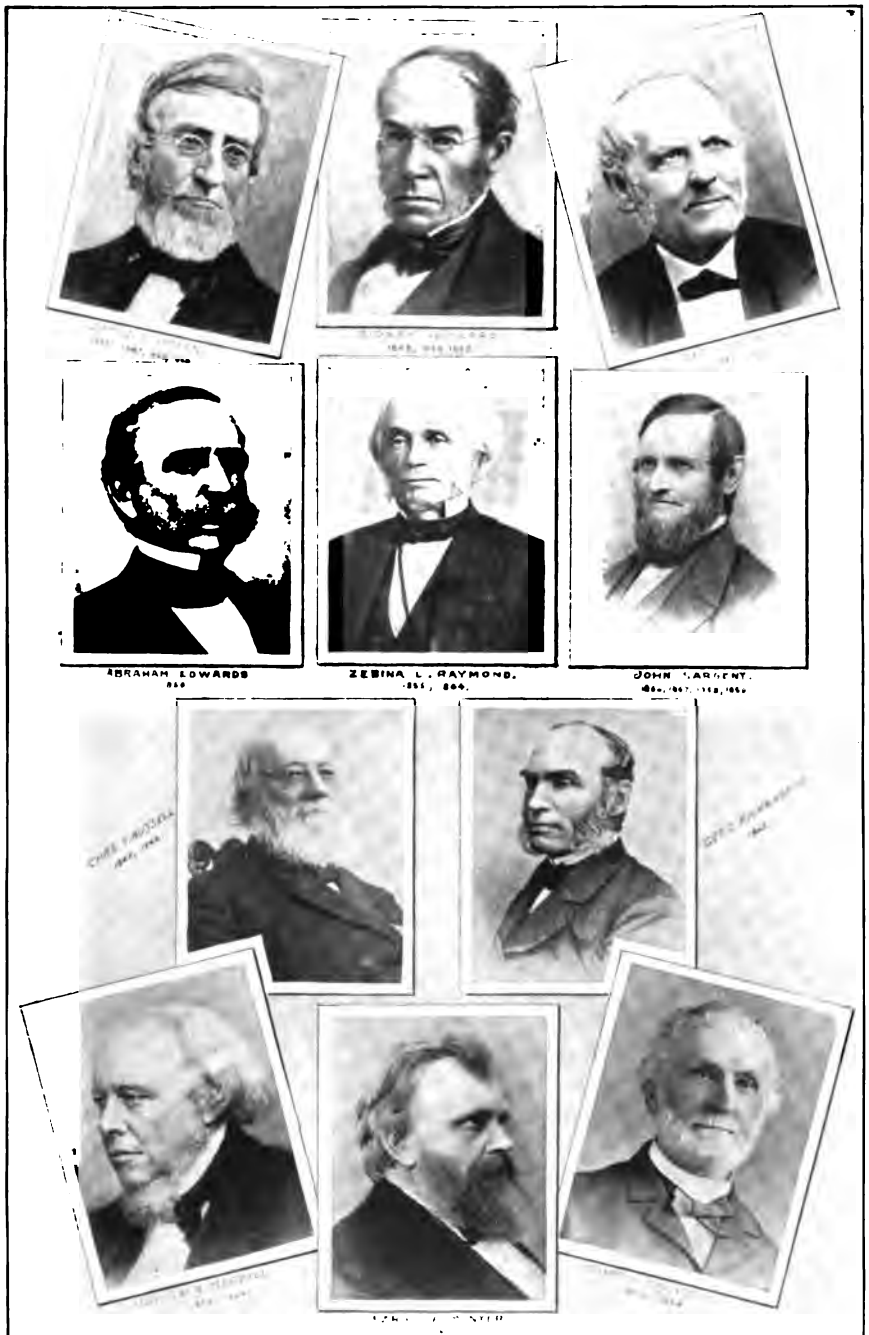
It is the purpose of this chapter to indicate the progress which Cambridge has made in municipal unity, and the growth and prosperity which have resulted from municipal action and direction, rather than to dwell upon the results of private effort during the past fifty years. In other chapters of this volume, other writers have told of the achievements in the field of private enterprise; but here the work of the people as a municipal organism will be described, although necessarily in a brief manner.

Compared with European standards of highly developed municipal life, Cambridge has few great results to show for its fifty years of charter existence; but as a type of the modern American city of the class approximating 100,000 population, it is of special interest. Here the student of American municipal methods may trace the rise and sure progress of a fine civic spirit; here may be seen the gradual abandonment of those sectional jealousies so characteristic of American towns a half

century and more ago, and the progress of the spirit of municipal unity which is taking its place. If a genius for bold and comprehensive schemes for the development of the city's natural resources, through the united and public action of the people, cannot be pointed to as the characteristic, so far, of the charter life of Cambridge, there can be found, at least, hopeful signs all through the past fifty years of an evolution of the municipal idea which is now beginning to make Cambridge both prosperous and famous. Well-directed, organized municipal energy has thus far nowhere characterized the growth of American municipalities; but in the new civic awakening which is now taking place in our country, in the application of scientific methods to the solution of the new problems created by dense population groups, and especially in the permanent elimination from its municipal life of that irritating factor, the legalized public dram-shop, Cambridge may well be pointed out as an illustration of the highest standard yet reached by American urban dwellers.

Fifty years ago, that portion of the New England people which lived within the limits of Cambridge received the idea — although faintly and imperfectly at first — of a municipal organism which should be responsible for the general welfare of the community. It was by no means a Cambridge idea, and the people appear to have adopted it with reluctance, and only after long debate. Boston had had a charter life of nearly a quarter of a century before the movement to imitate its example began in the neighboring towns. Of these Roxbury led the way, its charter having been granted by the legislature and accepted by its people five days before the corresponding action was taken in Cambridge. A year later, Charlestown illustrated the general tendency by likewise becoming a city. Before this charter agitation of 1846, there had been no new cities in Massachusetts since the incorporation of Salem and Lowell in 1836. But following the example of Boston's three little neighbors, New Bedford became a city in 1847, Worcester in 1848, and Lynn in 1850. Then came Newburyport in 1851, Springfield in 1852, Lawrence in 1853, Fall River in 1854, and so the list has lengthened, year by year. With the exception of the three early ventures of Boston, Salem, and Lowell, the era of Massachusetts municipalities may be said to have begun in 1846.

The rapid increase in the population and property of Cam-


ABRAHAM EDWARDS
ZEBINA L. RAYMOND.

bridge in the years immediately preceding the adoption of the charter was the main reason for the change in its form of government. From the national census of 1840 to the assessors' census of 1845 there had been an increase of 48 per cent. in the population, — a larger percentage than is recorded in any other five-year period of the history of Cambridge. With this remarkable growth in population there had also been an increase of 32 per cent. in the town's valuation. In 1845, the administrative methods of the old town-meeting form of government were strained to meet the community needs of 12,490 people, and even then these needs were inadequately supplied.

We are not now concerned, however, so much in the outward change in the form of government made by the people in 1846, as we are with the new conception of municipal life which had its birth at that time. The great increase in population and wealth in the years immediately preceding the charter year had taken place largely in Cambridgeport and East Cambridge. The tendency of the centre of population toward West Boston Bridge had always been regarded with ill favor by the conservative people who formed the colony around Harvard College, and when, in 1832, this tendency was emphasized by the erection of the new town-house on Norfolk Street and the consequent final adjournment of the town meeting from the Old Village to the Port, open and determined attempts to divide the town were made. These efforts to secede were met, on the other side, by a determination to effect "a more perfect union." And thus a desire for better municipal service and a closer municipal unity found expression on the 30th day of March, 1846, in the acceptance of the charter by a vote of 645 to 224.

But the new desire found many discouragements. To unify the apparently diverse interests of the Old Village, the Port, and the Point, fifty years ago, was no easy task. The division of the young city into separate communities — "unavoidably accented by Nature," as one writer has said — was so marked that it was not surprising to find those who believed that the villages had no common interests which demanded a common government. Communication between the three communities was slow, and at some seasons of the year even difficult. In the school system the idea of town division had been carefully preserved, even to the extent of maintaining three high schools. The fire department, although a unit in name, was composed

of volunteers, who not infrequently emphasized their sections to the detriment of the town. Thus through all the departments of the young city government the sectional idea was conspicuous, and the facts here cited as illustrations can be easily supplemented in large numbers by the recollection of any old resident.

The desire for better municipal service was likewise met by many discouragements. If we have in mind modern municipal standards, we must confess that Cambridge began its career as a city poorly equipped to provide for the common needs of the people. No one now questions that the building and maintenance of bridges across the Charles River is a proper municipal function; yet in 1846, instead of being city property, the two principal bridges to Boston were owned by private corporations, authorized to exact tolls for their use. Not until 1858, and when tolls amounting to upwards of two millions of dollars had been paid, did these bridges become free municipal property.

It would require a long story to tell all that the young city of Cambridge failed to provide for its people which now, by universal assent, is demanded of every modern municipality. We may indicate some of these failures, in the briefest possible way. The streets were unpaved, unmacadamized, uncurbed, unlighted, and unprotected from furious and reckless driving by Boston pleasure-seekers inspired with Cambridge "refreshments." One of the most conspicuous acts of Mayor Green during his first year was to break up the common practice of pasturing cows in the streets. The city gave to the citizens but little protection from the acts of lawless persons, and while it cannot be said that lawlessness prevailed, it must be admitted that the safety of person and property then depended far more upon individual vigilance and less upon municipal police protection than at present. The police department was organized in the summer of 1846.

Protection from fire was inadequate, — extremely so, when modern standards of efficiency are taken for comparison. In 1847, the old volunteer fire companies were superseded by an organization of which our present fire department is the culmination.

In 1846, Cambridge was a city of wells and cesspools, built and maintained by the individual real-estate owners. The building of the first sewer by assessment was under the town in

1845; but the ordinance in relation to common sewers, establishing a sewer system, was not passed until 1852. It was in 1865 — nineteen years after the acceptance of the charter — that the city assumed the function of supplying drinking-water to its inhabitants.

The new city of 1846 had no street-cleaning nor garbage-removal service. Its arrangements for the prevention of epidemic diseases were crude and inadequate. There were few if any regulations of house-building and occupancy. Public parks were scarcely dreamed of. The municipal burial grounds were forbidding in appearance and insufficient in size. The old town-house was wholly inadequate for municipal uses. There was no public library; no engineering department; no municipal ambulance for the injured; and no free text-books for the youth. And yet the property of Cambridge in 1846 was taxed at the rate of $5 on $1000. It might, indeed, be a natural question to ask why this comparatively high rate was necessary, and for what purposes the young city needed the revenue thus raised. As an answer to this, and also as an indication of what manner and amount of service the municipal government of 1846 afforded, the following table of the expenses of the town and city from March 1, 1846, to March 1, 1847, is given: —

Almshouse and roads	$11,035.68
Instruction of schools	13,089.05
Repairs, etc., of schoolhouses	1,865.26
Burial grounds	108.38
Interest and bank discounts	1,376.00
Poll tax to enginemen	177.00
Bell-ringing	135.00
Repairs of bridges	1,493.23
Salaries of city officers	1,900.00
Police and watch	2,017.71
Fire department	2,751.61
Reservoirs and drains	13.71
Incidental expenses	4,685.93
Fuel for schools	30.12
Board of health	46.66
	$40,725.34

If the population of Cambridge in its first charter year is estimated at 13,000, the amount expended per inhabitant by the municipality for all the service rendered was $3.13. By refer-

ence to this table of expenditures it will be seen what the conception of municipal government was in 1846. Cambridge held itself responsible for the education of its youth and for the care of its destitute. There was also a languid attempt to furnish protection to the property and lives of its inhabitants through police and fire departments, and here, in great measure, the functions of a municipal government, as then conceived, ended. All other means of administering to the necessities, the comfort, or the happiness of the people, were left to individual or corporate effort, and what those agencies failed to supply was left unsupplied.

Let us now pass to a consideration of the present attainments of the municipality of Cambridge. We have seen the expenses of the first charter year in detail. It will be well also to examine the municipal expenses of the year 1895, which closes the first half century. They were as follows: —

Ambulance department	$2,269.15
Assessors' department	12,797.40
Auditing department	3,352.03
Bridge department	12,473.03
Cemetery department	16,999.40
City clerk department	6,404.25
City messenger department	2,645.92
Civil service department	275.00
Clerk of committee department	3,708.47
Election expenses	9,476.60
Engineering department	22,743.52
Executive department	5,362.15
Fire department	82,171.99
Health department	11,482.98
Incidental expenses	14,514.68
Inspection of milk and vinegar	1,388.14
Inspection of provisions	747.89
Inspection of wires	10,399.82
Interest	118,099.84
Lamps department	69,926.61
Land damages	24,275.13
Law department	3,970.45
Poor relief	100,841.33
Parks	222,475.05
Plumbers' examiner's department	153.81
Police department	110,784.22
Public library	21,064.83
Public buildings	154,289.89
School maintenance	258,766.08

Sealer of weights and measures	1,491.29
Sewers	87,553.59
Sinking fund	106,940.00
State aid	23,159.91
Stationery and printing	2,843.14
Street department	223,205.21
Treasury	13,471.50
Water-works	758,054.81
Total	$2,520,579.11

The state census of 1895 found the population of Cambridge to be 81,643. At the close of the half century, therefore, we find the municipal expenses to be $30.87 per inhabitant, as compared with $3.13 for the first year. There were in 1895 extraordinary expenses for the extension of the water-supply system and for parks, which raise the total municipal expenditures above the average of the years immediately preceding; but yet this sum of $30.87 may fairly be set against the $3.13 as illustrating the extent which has been reached in the municipalization of the people's energy and resources. It is also necessary to state in this connection, that the city at the end of its fifty years of charter life owns real estate valued at about three millions of dollars. The net funded city debt, exclusive of the water debt at the close of the fiscal year of 1895, was $2,244,183. The tax rate in 1895 was $15.70 on $1,000 of full valuation, and the total amount of real and personal property was $80,911,060. The tax rate in 1846 was $5; the total valuation $9,312,481, and the city debt $22,000. In 1846, the municipal debt amounted to .0023 of the wealth of the city; in 1895, the debt amounted to .0277 of the city's wealth.

It was not intended that this chapter should be a compilation of figures, nor even a mere directory of municipal improvements. It seems necessary, however, that these comparative statistics which have been recorded should be set down in order that the main purpose of the chapter may be carried out. Mr. James Bryce, in his elaborate review of the workings of American municipal government, says: "Two tests of practical efficiency may be applied to the government of a city: What does it provide for the people, and What does it cost the people?" The facts which have burdened this chapter will answer to a considerable extent, so far as Cambridge is concerned, these two practical questions.

Considered historically, the fifty years of Cambridge charter life — the working lifetime of a man — has shown a most gratifying, even a wonderful development in municipal service. Considered comparatively with the present efficiency of other cities in Massachusetts and in the other States, the showing which Cambridge makes is also most gratifying. But this chapter would be unduly prolonged if we were to enter into a study of this latter point.

As for the spirit of municipal unity which has so wonderfully developed in these charter years, we may well indulge ourselves in a further consideration. We have seen how the spirit of division and village independence predominated fifty years ago. Perhaps, as has already been suggested, the "accent" which nature placed upon this division was the chief cause of the unfortunate sectional feeling which then prevailed and influenced all municipal action. Marshes and woodlands "interposed, made enemies of those who else like kindred drops would mingle into one." Bad roads — those great obstacles to civilization — kept the Old Villagers, the "Porters," and the "Pointers" apart. Especially was this condition then considered by the residents of the Old Village necessary to continue what Chronicler Holmes at the beginning of the century had described as "eminently combining the tranquillity of philosophic solitude with the choicest pleasures and advantages of refined society." Years ago, Sir Charles Dilke wrote: "Our English universities have not about them the classic repose, the air of study, which belongs to Cambridge, Massachusetts. Even the English Cambridge has a breathing street or two, and a weekly market-day; while Cambridge in New England is one great academic grove, buried in a philosophic calm which our universities cannot rival as long as men resort to them for other purposes than work."

But the day of village isolation and philosophic calm is passed. Gradually the boundary lines of the three communities have widened from the three centres of activity, — like the widening ripples from the pebbles cast into the placid bosom of our Fresh Pond, — until these lines have met, mingled, and disappeared. Bad roads were made good; street cars began their civilizing mission; sidewalks were built. The playful plaint of Lowell in a letter to Leslie Stephen written in 1871 is suggestive of the change: "The city has crept up to me, curbstones are feel-

ing after and swooping upon the green edges of the roads, and the calf I used to carry is grown to a bull."

It is, of course, a matter of opinion how far now the old sectional feeling prevails. It is outside the scope of this chapter to discuss the social conditions of Cambridge, and it might be asserted by some that in social life the old sectional distinctions are still maintained. Yet even here it must be confessed that sectional feeling is now based more upon a tradition than upon any present distinction, and that it is growing weaker as the years pass. But so far as municipal action is concerned, the close of the first half century of charter life finds sectional and ward lines nearly obliterated. Especially is this to be seen in the two greatest municipal enterprises in which Cambridge ever engaged.

To the water-supply system and the park system, separate chapters are devoted elsewhere in this volume. A consideration of but a single phase in the development of these enterprises is here intended, and that merely as an illustration of municipal unity of action. The Water Board consists of five commissioners, that number having originally been fixed because there were five wards in the city. Yet seldom, in the composition of this board, has the ward representative idea been insisted upon, and never, perhaps, have ward considerations controlled the greater enterprises of this department of city works. In the establishment and extension of the water-supply system the needs of no less a factor than the city as a whole have been studied, and the work has been prosecuted upon this line. The same quality and quantity of water (so far as topographical conditions would permit) have flowed into the homes of all the wards, illustrating the impartiality with which the rains from heaven are said to descend upon the just and unjust. Certainly the introduction and extension of our water supply has been an important factor in the development of municipal unity. It is a fact of much significance as illustrative of the tendency in municipal life, that the thirteen thousand people who fifty years ago drank from a thousand wells have now grown to eighty thousand people, drinking from one common well.

When, in 1893, the board of Park Commissioners was created, the conventional number of five was ignored altogether. Instead, the board was made to consist of three commissioners.

The work of this board in laying out a municipal system of parks has been upon as strictly a scientific basis as has been any of the much-praised work of the European municipalities. The map upon which the park lines were drawn had no trace of ward boundaries. The topographical features of the city area, and the recreative needs of the people with reference only to density of population, are the considerations upon which the Cambridge park system is based. This is notable from the fact that all previous agitation for parks (and it had been long drawn out) was based upon the ward idea. Previous to 1893, the question of parks was seldom discussed in a broader way than with reference to the needs of a single ward.

Other lines of municipal work might also be mentioned to illustrate the unity of plan and action with which the city is now prosecuting its enterprises; but enough has been written to show what has been attained, and to indicate what may be expected in the future in the application of organic municipal energy in the development of the resources of Cambridge.

In this sketch of Cambridge municipal development nothing has been said, individually, of those who have occupied public places, or who have as private citizens been conspicuous in the service which they have rendered the city. It would require a long chapter merely to record the names of all those who are worthy of mention in the half century of work now closed. Unlike some other cities, no single name stands above all others; yet there are not a few names, any one of which represents long service, high ideals, rare intelligence, and a civic pride which, if found in some less favored community, would make its possessor the hero of a city's half century. It would be a privilege to dwell upon the service of some of those who have most contributed to the municipal activities of Cambridge, but this falls outside the purpose of the chapter. The writer must, however, record the conviction that few cities in our country during the past fifty years have been so richly endowed with service as has Cambridge. At the beginning of its charter life, Mayor James D. Green set the example of uprightness, ability, and faithful work. In a eulogy delivered not long before his death, the Rev. Andrew P. Peabody called attention to the standard set by the first mayor and the faithfulness with which it had been maintained by his successors, and, for the most part, by all who have held public office. The memory of all this service

is indeed a rich inheritance and an inspiration to those who take up the work of the next fifty years of the municipal life of Cambridge.

During the fifty years of the charter, twenty-two citizens have served as mayor. The years in which each administered the office, and also the important personal facts regarding them, may be gathered from the following table: —

	Years as Mayor.	Born.	Died.	Native of.	Occupation.
James D. Green.	1846-47, 1853, 1860-61.	1798.	1882.	Malden, Mass.	Clergyman.
Sidney Willard.	1848-49-50.	1780.	1856.	Beverly, Mass.	Professor.
George Stevens.	1851-52.	1803.	1894.	Norway, Maine.	Manufacturer.
Abraham Edwards.	1854.	1797.	1870.	Boston, Mass.	Lawyer.
Zebina L. Raymond.	1855-1864.	1804.	1872.	Shutesbury, Mass.	Merchant.
John Sargent.	1856-57-58-59.	1799.	1880.	Hillsboro', N. H.	
Chas. Theo. Russell.	1861-62	1815.	1896.	Princeton, Mass.	Lawyer.
Geo. C. Richardson.	1863.	1808.	1886.	Royalston, Mass.	Merchant.
J. Warren Merrill.	1865-66.	1819.	1889.	South Hampton, N. H.	Merchant.
Ezra Parmenter.	1867.	1823.	1883.	Boston, Mass.	Physician.
Chas. H. Saunders.	1868-69.	1821.		Cambridge, Mass.	Merchant.
Hamlin R. Harding.	1870-71.	1825.	1889.	Lunenburg, Mass.	Agent.
Henry O. Houghton.	1872.	1823.	1895.	Sutton, Vermont.	Publisher.
Isaac Bradford.	1873-74-75-76.	1834.		Boston, Mass.	Mathematician.
Frank A. Allen.	1877.	1835.		Sanford, Maine.	Merchant.
Sam'l L. Montague.	1878-79.	1829.		Montague, Mass.	Merchant.
Jas. M. W. Hall.	1880.	1842.		Boston, Mass.	Merchant.
Jas. A. Fox.	1881-82-83-84.	1827.		Boston, Mass.	Lawyer.
William E. Russell.	1885-86-87-88.	1857.		Cambridge, Mass.	Lawyer.
Henry H. Gilmore.	1889-90.	1832.	1891.	Warner, N. H.	Manufacturer.
Alpheus B. Alger.	1891-92.	1854.	1895.	Lowell, Mass.	Lawyer.
Wm. A. Bancroft.	1893-94-95-96.	1855.		Groton, Mass.	Lawyer.

From the above it will be seen that all of our mayors have been New England men, and that of the entire number sixteen were born in Massachusetts. Two of the number were born in Cambridge, and five were Boston boys. Sixteen were born under town-meeting rule, and received their first impressions of community government in that way, while the six who were born under municipal charter government were familiar in early life only with the simple workings of Massachusetts cities in the period before the war. Three of our mayors were born in the eighteenth century, and one was born one hundred and sixteen years ago. Of all the number, three only were born since the Cambridge charter was adopted. Six have been lawyers, and, although it cannot be stated with certainty, it appears that there have been eight college graduates among them.

II.

LITERARY LIFE IN CAMBRIDGE.

By HORACE E. SCUDDER,

EDITOR OF THE ATLANTIC MONTHLY.

A CLEVER Cambridge woman once said to me that when she met a Cambridge man, and was a little at a loss for conversation, she would turn upon him with the question, How is your book coming on? and the question rarely failed to bring forth a voluble answer. Brigadier-generals were no more common in Washington during the war than are authors in Cambridge, but the former carried the title in large letters, the latter often secrete themselves behind some profession or calling not ostensibly literary. It may be a little heretical to assert the fact in a book which celebrates the civic honors of Cambridge, but I am none the less quite sure in my own mind that a large part of the attraction which Cambridge has had in the past for men of letters has been its comparatively village-like character. Authors do not, it is true, prefer to walk on a ten-inch curbstone, or jolt to Boston in an hourly omnibus, yet the disadvantages of a village have had their compensation in the larger leisure, the simpler social life, the roomier homes, which until lately characterized Cambridge. The city, to be sure, is still a way-station from the country to Boston, in the matter of railway accommodations, steam or electric, but the open spaces are closing up, the college people meet more formally, and need more introduction to each other, city habits are forming, and it cannot be long before the conditions which once charmed authors will give way; perhaps by that time authors themselves will be changed in their temper, and will like to live in a hurly-burly of elevated railroads, great apartment houses, and everlasting chatter.

When that time comes, a few belated spirits will look back regretfully to the Cambridge which called itself a young city, but in its traditions was after all an overgrown village, and

figures which are as yet but slightly historic will rise to the imagination as bringing the glory of true literature to overshine the town and make it one of those bright spots on the airy globe of the human spirit which is so charted as to make Concord and Ambleside more conspicuous than, let us say, Jersey City and Leeds. That fine, poetic nature who brought his sensitive English conscience to the New England, where the conscience had been more sturdily cultivated, Arthur Hugh Clough, left a tremulous track of light behind him as he tarried awhile in Cambridge, translating Plutarch, laboring and making friends with men with whom he should have continued to live, only he could not well bear transplanting. "We are potted plants here in Cambridge," said the witty Francis Wharton, explaining to an English visitor that the men of whom he inquired were not natives of Cambridge, but were drawn to it by its university and schools and kindred spirits. Hither came that poet, Forceythe Willson, who flashed forth a few striking war lyrics, but lived almost in obscurity near Simond's Hill; a silent figure, scarcely known even to those neighbors who could best appreciate him. To Cambridge at a later date came another stranger, Elisha Mulford, who brought with him the reputation built upon "The Nation," that masterly interpretation of our great federal life, hammered out with toil in the silence of his Pennsylvania home after the war for the Union was over; and here he wrought upon that great conception of "The Republic of God," making in these books two pillars for sustaining the great arch of social philosophy, an arch which he surely would have reared had he lived. He came, as so many others have come, to educate his children, debating long between New Haven, Exeter, and Cambridge, but taking root in the soil here when his choice was made.

Others there have been who found their home here naturally by reason of the convenience of historic printing-houses, and who might easily have worn paths to and from their houses, as they carried forward their scholarly pursuits. For a long time the great lexicographer, Joseph E. Worcester, lived his retired life where now live the family of the late Chauncy Smith. Many still youthful will recall the figure, alert, nervous, and almost furtively shy, of Ezra Abbot, skimming along the walk, his eyes bent on his book, which he read as he walked; the deadly foe of error on the printed page; his own work in con-

LONGFELLOW HOUSE.

LOWELL HOUSE.

struction as faultlessly accurate as his handwriting was unmistakably legible. It requires a somewhat older memory to recall the courtly presence of Charles Folsom, who well deserved the English title of corrector of the press, but whose chastening for the time seemed scarcely joyous to the printer as he waited impatiently for the proof-sheets which Mr. Folsom carried around in his pocket till he could, after long search in the libraries of the neighborhood, relieve them of possible errors of statement. Of the same indefatigable temper in exorcising the black art was George Nichols, for whose aid Lowell stipulated when he undertook to edit "The Atlantic Monthly." It would be hard to overestimate the value of these two subterranean builders of literature. Their own craft recognized their power; every author whose books passed through their hands blessed them, with occasional lapses, and the reputation which the great printing-offices of Cambridge enjoy is due largely to the standard which these men raised, and to the traditions which they established.

The printing-houses have been neighbors to the university, and the university has been the mother or foster-mother of authors. And yet one hazards a doubt if the enlargement of the university, and the specializing of its functions, is not less favorable to pure literature than was the old-time college, with its high regard for humane scholarship. At any rate, as we note the two most eminent American men of letters connected with Harvard, it is difficult not to feel that they belonged rather with the old college than with the new university. Still, the present is never in true perspective, and 1896 may yet read as interestingly as 1836, when Longfellow came to Cambridge, or 1855, when Lowell took service in the college. No town or city can ever be barren in the world of literature which has two such names as these on its roll of honor, and can hold within its bounds two such shrines as Craigie House and Elmwood. There is indeed a double wealth of association about Craigie House which so heaps up the memory of patriot and of poet as to make each contribute to the other's fame. The spaciousness of the house, with its large outlook across the reserved ground of the Longfellow Garden to the broad marshes where flows the river he celebrated in song, fitly accompanies the fame of a man who was catholic in his taste, and so universal in his poetic sympathy as to miss appreciation chiefly from those who wish better bread than can

be made of fine wheat. During his lifetime, Longfellow made Cambridge as Emerson made Concord, the port to which all craft put in that sailed over the seas of literature. His name is identified with the place, and the pages of his diary are set thick with the names of men and women who lifted the knocker on his door. And now that he has gone, pilgrims continue their visit to the shrine.

Scarcely less fit is the homestead of Lowell, set in an aviary grove, withdrawn from too close contact with the world, yet with paths which led Lowell into those nooks of life from which he drew sure knowledge of men and nature. "Do you not wish to go to Egypt?" a fellow-townsman asked the poet exiled at the court of St. James, "and see the work of Rameses?" He replied: "I would much rather see Ramsay's in Harvard Square." The attachment that Lowell bore to the town of his birth and best life finds expression in his verse and in that delightful paper on "Cambridge Thirty Years Ago." He looked with some misgiving on the changing aspect of the town he loved, but he added to its true metropolitanism by his own close association with it. It is a pleasant witness to the appreciation of poetic values, that the builder of a new house in the neighborhood of Elmwood changed her plans when she found that she was about to cut down one of the willows under which Lowell had sung. The spreading chestnut of Longfellow's song fared worse at the hands of official road-straighteners.

I have hinted at a few of the names among the dead that give distinction to Cambridge as a home of literature. It would be invidious to distinguish among the living, nor is it prudent, for though some names could be mentioned that may safely now be added to the roll of honor in American letters, who knows what names there are which need but a little more time to carry them into higher niches than now are occupied? The alcove in the library which holds the books of Cambridge authors is but a beginning of our literary treasure-house, for in spite of the heterodoxy which I displayed when I began to write, I am a firm believer in the contagion of literature, and though Cambridge becomes more urban with each decade, there is that about a bookish community which stimulates literary endeavor. Moreover, the constant accession of fresh nature through the addition of young scholars to the university serves to keep alive that spirit of enthusiasm, of devotion to high ideals, of

regard for the kingdom of spirit on which literature thrives. The social life of a university town, besides, takes color from the strong infusion of university blood. Literature and scholarship have a natural kinship with modest living, and as the scholar will put books before meat, so a great university is by all its traditions a protest against the indulgence of the flesh. A society in which a university is planted cannot so easily make riches the measure of social rank, and Cambridge thus will still attract the lovers of a literary life, who value in society the coin which is struck from the same mint as that they carry about with them in their empty pockets.

SCIENTIFIC CAMBRIDGE.

By JOHN TROWBRIDGE, S. D.,

RUMFORD PROFESSOR IN HARVARD COLLEGE, AND DIRECTOR OF THE JEFFERSON PHYSICAL LABORATORY.

THE "London Nature," in a review of Dr. George Birkbeck Hill's interesting book, entitled "Harvard College by an Oxonian," noted the fact that the author had not expatiated upon the remarkable laboratories and scientific collections at Cambridge, which to the mind of the critic constituted the most noteworthy portion of the university.

When I, too, consider that these laboratories and museums are the growth of hardly more than fifty years, and remember that they already have a world-wide reputation, I feel that the genial Dr. Hill should have devoted much space to them. In Sanders Theatre, over the stage, it is told in sonorous Latin how our ancestors founded the university: —

"Hic in sylvestibus et in incultis locis Angli domo profugi."

After reading this, if one goes to the Jefferson Physical Laboratory, and looks at the small cabinet which contains all the physical apparatus which the university had in its struggling days, — 1700 to 1800, — a Benjamin Franklin electrical machine, an orrery, a small telescope, a few models, and some glass jars, and then turns to the modern equipment of the physical laboratory, with its dynamos, its spectroscopes, telephones, and acoustical apparatus, and one studies the equipment of the observatory, of the chemical, biological, and geological laboratories, one feels that small seed has truly borne great fruit in two hundred and fifty years.

The first man of science who lived in Cambridge was John Winthrop, a relative of Governor Winthrop, and professor of mathematics and natural philosophy in Harvard College during the years from 1738 to 1779. One can find to-day among the college archives his notebook of his course of lectures. I was

interested to see what he gave to students. There were twenty or more excellent notes on astronomy and optics, and only one on magnetism and one on electricity. Professor Winthrop assisted at certain astronomical events; made interesting observations on the earthquake which visited Cambridge in 1755, and which was sufficiently powerful to throw bricks from a chimney of the professor's house across the pathway. He was elected member of the Royal Society of London. Count Rumford, then Benjamin Thompson, it is said, walked from Woburn to Cambridge to hear Professor Winthrop lecture.

After Winthrop came Rev. Mr. Williams; then Professor Farrar, a remarkable lecturer. Up to the year 1830, astronomy and physics were the only sciences to which much attention was paid in Cambridge. There were no laboratories even in chemistry.

In 1816, Dr. Jacob Bigelow was appointed Rumford professor and lecturer on the application of science to the useful arts. He was perhaps the earliest citizen of Massachusetts to recognize the importance of scientific training for young men who proposed to enter into the professions which require technical knowledge of the sciences. It is to him, I believe, that the community owes the primal impulse which culminated in the establishment of technical schools in America. He was a broad-minded physician, and represented a type of which Cambridge has had remarkable examples. Daniel Treadwell succeeded him in the Rumford professorship. Professor Treadwell was an eminent inventor; to him we owe the method of building up steel guns, which revolutionized the process of manufacturing heavy ordnance, both in this country and Europe. To understand Professor Treadwell's work one should read the admirable memoir of him written by Dr. Morrill Wyman.

There had been a long period of intellectual inactivity in science from the time of Professor John Winthrop (1779) to the advent of Dr. Bigelow (1816).

Men were now awakening to the importance of a knowledge of science, and Dr. Bigelow's plans for technological education doubtless contributed greatly to this awakening. In 1842, Dr. Asa Gray, the great botanist, came to Cambridge, and his coming marks an epoch in the scientific life of our city. In 1847, Louis Agassiz, Asa Gray, Jeffries Wyman, and Professor Hors-

ford formed the nucleus of a school of science, which has had more influence on education in America than any other scientific institution. A large number of young naturalists hastened to work under the inspiration of Agassiz, and Cambridge immediately became the centre on this continent of zoölogical research. The presence of this great man in our university illustrates forcibly the power of genius. By his reputation and by his personality he greatly increased the resources of the university, but above all he excited a spirit of research, and elevated the Puritan mind above the high-school ideal of a college. His teachings still live in the minds of matrons who once attended the Agassiz school for young ladies in Cambridge, and has prompted them in many cases to stimulate the love for science in their children. I remember well that sturdy figure with expansive brow and kindling eye which used to be a familiar sight in our streets. One felt sure of awakening a soul-satisfying burst of enthusiasm if he were addressed on a scientific subject; and in gazing upon the museum which he founded, one feels that his spirit is with us, and that he still walks between Quincy Street and Divinity Avenue.

My neighbor, too, Dr. Asa Gray, the founder of the herbarium and botanical department of the university, whose work has done so much to increase the reputation of Cambridge as a scientific centre in Europe, — is not the memory of his geniality and his astonishing vitality still fresh? Almost every mail brought him letters from the distinguished men of Europe, — Darwin and Hooker, Romanes and De Candolle. These men wrote the words Cambridge, Massachusetts, on their letters with respect born of the labors of a modest man who sought no civic office. Such men are the choicest possessions of a municipality. To him I owe valuable scientific counsel and criticism; and he, too, had an ever-bubbling fountain of enthusiasm and human sympathy. When the city forester proposed to remove the veteran elm which stands at my gate, an elm which has doubtless been a resident of Cambridge since the time of Cotton Mather, Dr. Gray rushed from his library and saved it, and then returned to his important labors. The tree still lives, and in the spring evenings, when I walk up Garden Street beneath the row of trees which the city owes to his care and foresight, I remember the active step which at seventy years was hard to overtake, and I feel a consciousness of that immor-

tality for which his whole life pleaded. He still lives in his works and in his trees.

Then, too, there was a distinguished contemporary of Agassiz and Gray, a man so modest that Cambridge did not know it possessed a great man until he died, — Jeffries Wyman. The student of biology ever rises from the perusal of his papers with the consciousness that many men of far greater popular reputation were fit only to sit at his footstool. He, too, had that fine enthusiasm which warmed the heart of the struggling scientific student of 1847, — struggling in the sense of the lack of laboratories and systematic instruction, but rich in the ability to converse with such men as Wyman. I can see now that fine profile fit for a medallion, with a face lit by the gentle glow of scientific reflection. When the citizen of Cambridge grows restive under taxation and thinks that the broad lands of the university should share his burden, let him reflect upon the possibility of having such choice spirits as Jeffries Wyman among his townsmen, and let him look at the scientific arrangements of the Cambridge Hospital, due in such large measure to a kindred scientific spirit. The university is the proper environment of such men.

In 1850, the Scientific School was established, and under the instruction of Agassiz, Gray, Wyman, Peirce, Eustis, Horsford, a number of teachers were bred who, I have said, have extended the spirit of research over the entire continent. In the early days of the Scientific School, a number of remarkable men were here as students or as assistants. I need only mention among them the names of Simon Newcomb, Asaph Hall, Dr. B. A. Gould, S. H. Scudder, Morse, Hyatt, and Putnam.

At the time I now speak of there were no well-equipped laboratories in Cambridge. The observatory was the only endowed scientific institution, and there the two Bonds — father and son — initiated the astronomical publications which have continued in such full measure. In the work of the Bonds we perceive the beginning of that careful physical study of the planets which has now become such an important part of astronomical research. In those early days, Cambridge, too, contributed a keen observer in Mr. Tuttle, whose wagon is "tied to a star." After the Bonds came Professor Winlock, who greatly added to the mechanical equipment of the observatory. Few citizens of Cambridge who met this silent man occasionally on the

streets knew his reserve power, or the great geniality which lurked beneath a taciturn exterior. I remember once borrowing two valuable prisms from him, when I was a green young instructor, which I succeeded in chipping. On returning them to him with great perturbation of spirit, he instantly said: "Oh, I always intended to get Alvan Clark to reduce the size of these prisms, and he would have had to chip off these edges." I loved the man instantly. The observatory has prospered exceedingly, and it is now, under Professor Pickering, the principal astrophysical observatory in America. The scientific life in Cambridge began with astronomy and mathematics, and Cambridge has sent out the leading astronomers in America. There was little systematic instruction in the higher branches of astronomy and mathematics in 1850, but there was a strong intellectual environment; and one sometimes gets as much in a colloquium, even in Berlin, as in a course of systematic lectures. One should be led, however, by great minds. I remember Professor Benjamin Peirce once remarking with a gleam of his wonderful eyes: "It takes an eagle to train eaglets."

The subject of astronomy has always had in Cambridge the peculiar advantages of the services of Alvan Clark and his sons. They can be called artist mechanicians. They have built the largest and best telescopes in the world, and even Russia has been a suitor at the door of their workshop. Their labors in connection with astronomical research illustrate the general truth that the progress of the physical sciences depends as much upon mechanical skill as upon mathematical knowledge.

The subject of natural philosophy, or as it is now called physics, has always been closely allied to astronomy, and for fifty years Professor Lovering gave lectures on both of these sciences. He was a striking figure in the university, and a marked example of the school of college professors which once flourished in all American colleges, — professors whose elaborate lectures were characterized by literary skill and dominated by philosophy. This school is now fast passing away and giving place to one composed of men who are devoted to laboratory teaching. The professors of chemistry also, before 1840, taught mainly by lectures and text-books, and the university owes much to the labors of Professor Josiah Parsons Cooke, who developed the laboratory teaching of chemistry in Harvard College. The Scientific School, too, has done much for chemical

science. It was there that Dr. Wolcott Gibbs trained a remarkable band of investigators who are now teaching their science in many universities.

It will be seen from this rapid and incomplete enumeration of the scientific men who have given our city a reputation far beyond local limits, that the remarkable fountain of inspiration which shot up like a great geyser in the fifties has been followed by a stream of patient investigation in well-equipped laboratories. Where there was one investigator in 1850, there are now hundreds; and can we not say that just as a deluge can lift a host of small craft up to the heights of the peaks once attained by only one or two explorers, it is now more difficult for a scientific man to rise far above his contemporaries. It is certain that with its remarkable facilities for systematic work in laboratories and museums, Cambridge is ready for the scientific genius when he is ready to manifest himself. We are living to a certain extent, however, upon the capital of the past; and the young devotee of science, in remembering the great men in science who have lived and worked in Cambridge, cannot fail to feel a throb of inspiration in his heart as he reads in the dignified Latin over the stage of Sanders Theatre: —

"Qui autem docti fuerint, fulgebunt quasi splendor firmamenti . . .
Et qui ad Justitiam erudiunt multos, quasi stellæ in perpetuas æternitates."

EDITOR'S NOTE. — The Editor cannot permit the above chapter to conclude without a word in regard to its author. Professor Trowbridge is a prominent figure among the leaders of physical research in this country. He has been active in many lines of original investigation during the past twenty years, and to him is due the principal credit of developing the physical department of Harvard University from a mere cabinet of apparatus and a lectureship to a working laboratory that may well invite comparison with the leading laboratories of the world as to the opportunities offered for advanced research, particularly in the field to which Professor Trowbridge has of late given special attention, — electrical waves and the electro-magnetic theory of light.

THE CHARACTERISTICS OF MUNICIPAL GOVERNMENT IN CAMBRIDGE.

By HON. WILLIAM A. BANCROFT,

MAYOR OF CAMBRIDGE.

THE government of a city depends upon the disposition of a majority of its citizens holding the same views and acting together. The object of good city government is the efficient and economical administration of a city's affairs. This object is often thwarted by political or private interests inconsistent with it. Partisanship may be eliminated from the conduct of city affairs, and so may the influence of private interests. It is doubtless true that both are rarely eliminated altogether, but it is true also that so far as they are eliminated there is a corresponding rise in the standard of efficiency and economy.

The distinctive feature of municipal government in Cambridge is its non-partisanship, — not bi-partisanship, such as is exemplified by a board made up, in accordance with a requirement of law or by agreement, of an equal number of Democrats and of Republicans, but, literally and actually, non-partisanship in which membership in a national political party has to do with the selection of officials only as membership in a church, or in a society, or social standing, or wealth, or vocation, or peculiar views, have to do with this. Undoubtedly one or more of these considerations make for or against the election of a certain candidate in the minds of some voters, as his political faith does in the minds of others. So they do in the choice of a lawyer or doctor or business agent, but they are not ordinarily taken into account by most people when selecting a lawyer or doctor or business agent, and the national party to which a candidate belongs is not taken into account by the representative Cambridge voter. Fitness for the particular office, to be determined by the candidate's honesty, ability, and experience so far as the voter has information about these qualities, is the govern-

City Hall.

ing consideration. Twice only within the last twenty years have partisan nominations been made at a city election. Each time scarce a candidate thus nominated was elected, and the disapproval of the partisan proceeding shown by the voters, including a large number of the members of the party whose committee caused the nominations to be made, could hardly have been more emphatic.

In the administration of Cambridge affairs partisan considerations have even less a place. Indeed, so far as can be determined by the proceedings of the city council and by the doings of city officials, they have no place whatever. On the floor of the city council, or in committee rooms, one hears no allusion to political parties, and there is nothing to indicate that they are ever thought of in connection with city matters. Heads of departments, members of boards, and subordinate officials are selected without regard to their political faith, and for years, certainly, it has never been charged that the city's service is used for partisan purposes.

Municipal parties exist, however, apparently more to favor the candidacy of certain individuals, than to support a given municipal policy. Nominally all agree, or have agreed for many years, to what is called a pay-as-you-go policy; that is, as it is generally stated, the payment of current expenses with current revenue, debt to be incurred only for large and extraordinary undertakings in which the future also is to share. Actually, however, there is a disagreement in the construction of what are current expenses, and there is also a difference in the selection of officials, and in the methods of transacting business, as well as in the administration of many of the concerns of the city. While these disagreements and differences are not always expressly defined, they are nevertheless clearly discernible by those familiar with city business, and they furnish a plenty of reasons for the eternal vigilance which is the price of good city government even where the division along national party lines is disregarded in municipal affairs.

Accustomed to promote the welfare of the municipality and not that of a political party, the members of the Cambridge city government are less susceptible to private interests than they would be, were not the interests of the city paramount to all others in their minds. Cambridge therefore has been free from "jobs." The corruptionist has had little encouragement.

Another feature of municipal government in Cambridge — a direct result of non-partisanship — is the retention of city officials in office. It would be hard to find an instance where an official had been removed, except for cause, and happily there have been few such cases. It is customary also to promote subordinates when a vacancy occurs, and as a result, there are many officials who have spent the best part of their lives in the city's service.

The machinery of the city government of Cambridge is vested in a mayor, a city council of two branches, a school committee, and a board of assessors. The mayor, aldermen, school committee, and board of assessors are elected by a plurality vote of all the voters of the city, but each ward is entitled to three members of the school committee. The common councilmen are elected by wards. All other boards and all heads of departments are either appointed by the mayor subject to the confirmation of the board of aldermen (and this method applies to most), or they are chosen by a vote of the city council. Boards and heads of departments appoint all their subordinates, except in the police and fire departments, and except also in the cases of the assistant assessors and the assistant city clerk. In the police and fire departments, the subordinates are appointed by the mayor subject to the confirmation of the board of aldermen, and the same is true of the assistant assessors. The assistant city clerk is elected by the city council. After due hearing, with the approval of a majority of the board of aldermen, the mayor may remove any member of the board of overseers of the poor or of the board of health, and any other officer or member of a board appointed by him. The mayor is not a member of either branch of the city council. The executive powers of the city are vested in him, and he is also surveyor of highways. All executive boards and officers are at all times accountable to him for the proper discharge of their duties. The mayor has a qualified veto power over the doings of the city council, and of the board of aldermen; all contracts over $300 require his approval before going into effect, and he submits annually to the city council the estimates of money required for the respective departments with his recommendations on them. No expenditure can be made and no liability incurred for any purpose beyond the appropriation previously made. To the city council or to the board of aldermen are given all the powers of the

city not given to the mayor, the school committee, and other public officers prescribed by general law. The city council makes ordinances and provides for the appointment of certain officers, defines their powers and duties, and fixes their compensation. It also has authority to lay out, alter, and discontinue ways, to take land for them, and for the construction of sewers. The board of aldermen may authorize the construction of sidewalks, and must assess the expense of the materials upon the abutting lands, which then become chargeable for the payment of the amount. The board of aldermen fixes the number and compensation of policemen, and establishes general regulations for their government. It also has the power to grant and revoke licenses for which provision is made by law or ordinance.

The school committee, of which the mayor is *ex officio* chairman without a vote, performs all such duties as the school committees in Massachusetts towns are required by law to perform.

The essential difference between the form of city government of to-day and that in vogue from the time Cambridge became a city, up to 1892, is in the assignment of executive power. Formerly, it was given to the mayor and board of aldermen or to the city council, and was exercised through their committees. Now, it is given to the mayor, and is exercised through the boards and heads of departments, under his general supervision and control.

THE RINDGE GIFTS.

By EX-GOVERNOR WILLIAM E. RUSSELL.

Until 1887, Cambridge, while distinguished in many ways, had not been specially favored by any large gifts from her citizens for public purposes. She had been conspicuous for her educational institutions, for her many and varied industries, for her sturdy citizenship, and especially for the part she had taken in the struggle for the independence of our country, and later for union and liberty. Intelligence, patriotism, and many other virtues were characteristic of her people, but their wealth was not great, and it had not been devoted to a large extent to distinctly public objects.

The year 1887 marked a new epoch in her history. Then began a period of larger things, of grander municipal life, of greater public spirit in works of philanthropy and benevolence, and of devotion to the charities that "soothe and heal and bless." The privilege of starting this movement was given to one of her younger sons of ample fortune and of generous impulses. His early life and associations were with Cambridge. His later years, spent elsewhere, had with deep religious spirit been devoted to good works, which broadened his life out into the lives of others. With noble generosity and fine public spirit, he gave largely to the communities where he dwelt, and also richly blessed this city of his birth.

For many years Cambridge had felt the need of a public library that would meet the requirements of the people of a large and growing city. At a meeting of prominent citizens, a committee of ten was appointed to bring the matter to the attention of the people of Cambridge, and to solicit their subscriptions. As mayor and one of this committee, it was my pleasure to make known our wants to one who, although he had not been a citizen of the city during all his life, had always manifested a deep interest in her welfare. His answer, showing

FREDERICK H. RINDGE.

his generosity and love for his native city, is given in the following letter: —

BOSTON, June 14, 1887.

HON. WILLIAM E. RUSSELL.

DEAR SIR, — It would make me happy to give to the city of Cambridge the tract of land bounded by Cambridge, Trowbridge, Broadway and Irving streets, in the city of Cambridge, and to build thereon and give to said city a Public Library building, under the following conditions: —

That on or within said building tablets be placed bearing the following words: —

First: "Built in gratitude to God, to his son, Jesus Christ, and to the Holy Spirit."

Second: The Ten Commandments, and "Thou shalt love thy neighbor as thyself."

Third: "Men, women, children, obey these laws. If you do, you will be happy; if you disobey them, sorrow will come upon you."

Fourth: "It is noble to be pure; it is right to be honest; it is necessary to be temperate; it is wise to be industrious; but to know God is best of all."

Fifth: Words for this tablet to be given hereafter.

It is my wish that a portion of said tract of land be reserved as a playground for children and the young. I ask you to present this communication to the city government of Cambridge, and notify me of its action in relation to it. Should the gift be accepted, I hope to proceed at once with the work.

Yours respectfully,

(Signed) FREDERICK H. RINDGE.

The tract of land contained nearly 115,000 square feet, and was admirably situated for the purpose.

At a meeting of the city council held June 15, 1887, the following resolutions were adopted: —

"*Resolved*, That the city of Cambridge accepts with profound gratitude the munificent gift of Frederick H. Rindge of land and building for a public library, as stated in his letter of June 14, 1887; that the city accepts it upon the conditions stated in said letter, which it will faithfully and gladly observe as a sacred trust, in accordance with his desire.

"*Resolved*, That in gratefully accepting this gift, the city tenders to Frederick H. Rindge its heartfelt thanks, and desires to express its sense of deep obligation to him, recognizing the Christian faith, generosity, and public spirit that have

prompted him to supply a long-felt want by this gift of great and permanent usefulness."

Messrs. Van Brunt & Howe were selected as architects. Ground was broken for the library on May 1, 1888, and on June 29, 1889, the keys of the building were transferred to the city government. The exercises of the dedication were held in the main hall-way of the building, and consisted of music; prayer by Rev. Alexander McKenzie, D. D.; presentation of deed of gift, by Francis J. Parker; acceptance of the same by the mayor, Hon. Henry H. Gilmore; remarks by Hon. S. L. Montague, president of the board of trustees, Charles W. Eliot, president of Harvard University, Samuel S. Green, librarian of the Worcester Public Library, and Thomas Wentworth Higginson.

The building is of the Romanesque style of southern France, with exterior of Dedham stone, and dark sandstone trimmings. It has two divisions, one, partially fireproof, devoted to the convenience of the public, with waiting-hall, reading-room, reference library, and memorial and administrative rooms; the other division is for the storage of the books, and is wholly fireproof. The cost of the building was about $100,000.

A few months after his gift of the library building, and before work upon it had begun, Mr. Rindge made other gifts to the city of even larger value and of more importance. They were made by the following letter: —

Los Angeles, November 3, 1887.

Hon. William E. Russell.

Dear Sir, — It would make me happy to give to the city of Cambridge, provided no considerable misfortune happens to my property within two years from date, three gifts, which are described herein: —

First, a worthy site for a High School Building in the immediate vicinity of the Public Library Common, provided the following inscription, in metal or stone letters, be placed over the main entrance door: "Knowledge is worth seeking; but the wise, while striving to cultivate their minds, strive also to acquire strength of soul and body; then knowledge avails." And provided, also, one other condition be complied with. [This condition is that an adjoining lot be purchased and added to the High School lot.]

Second: A City Hall, provided the following inscription, in metal or stone letters, be placed on the outside of said building and over its main entrance door: "God has given commandments unto men. From these commandments men have framed laws by which to be

governed. It is honorable and praiseworthy faithfully to serve the people by helping to administer these laws. If the laws are not enforced, the people are not well governed." And provided also the city of Cambridge give a worthy site for said City Hall.

Third: An Industrial School Building ready for use, together with a site for the same in the immediate neighborhood of the Public Library Common, provided the following inscription, in metal or stone letters, be placed on the outside of said building and over its main entrance door: "Work is one of our greatest blessings; every one should have an honest occupation." I wish the plain arts of industry to be taught in this school. I wish the school to be especially for boys of average talents, who may in it learn how their arms and hands can earn food, clothing, and shelter for themselves; how, after a while, they can support a family and home; and how the price of these blessings is faithful industry, no bad habits, and wise economy, — which price, by the way, is not dear. I wish also that in it they may become accustomed to being under authority, and be now and then instructed in the laws that govern health and nobility of character. I urge that admittance to said school be given only to strong boys, who will grow up to be able workingmen. Strict obedience to such a rule would tend to make parents careful in the training of their young, as they would know that their boys would be deprived of the benefits of said school unless they were able-bodied. I think the Industrial School would thus graduate many young men who would prove themselves useful citizens. I ask you to present this communication to the city government of Cambridge, and notify me of its action in relation to it. Should the gifts with their conditions be accepted, I hope to proceed at once with the work.

Respectfully yours,

FREDERICK H. RINDGE.

At a special meeting of the city council, held November 12, 1887, the following resolution was unanimously adopted: —

"*Resolved*, that the city of Cambridge accepts with deep gratitude the munificent gifts of Frederick H. Rindge, as expressed in his letter of November 3, 1887, to the mayor. In accepting said gifts it desires to signify to him its profound and lasting appreciation of his great generosity and public spirit."

MANUAL TRAINING SCHOOL.

Messrs. Rotch & Tilden were selected as architects. Ground was broken July 12, 1888, and the building was ready for use on the 1st of October following. The late Harry Ellis had the

main charge of the erection and equipment of the school, and later was chosen its superintendent. To his constant, faithful, able service and unselfish devotion to the interests of the school and its pupils was due its great success.

The building is of Romanesque style of architecture, and stands upon a generous lot of land at the corner of Broadway and Irving Street. It consists of a main building 70 by 62 feet, with wings 60 feet square. A description of the work of the students will be given elsewhere in this volume by Mr. Morse, its superintendent.

The building and equipment cost about $100,000. The school, since its foundation, has been supported wholly by Mr. Rindge.

THE CITY HALL.

The architects of the city hall were Messrs. Longfellow, Alden & Harlow. A suitable site was purchased by the city government, located on Main Street, and extending from Bigelow to Inman streets. Ground was broken February 1, 1889, and the corner-stone was laid, with appropriate ceremonies, on May 15, 1889, by Most Worshipful Henry Endicott, Grand Master of the Grand Lodge of Masons of Massachusetts.

On December 9, 1890, the new city hall, finished and furnished, was formally transferred to the city, with exercises simple in character, in accordance with the wish of Mr. Rindge.

The building is of quarry-faced stone, and stands well back from the street, with terraces in front. It is 157 feet long, 92 feet deep on the sides, but has a recessed court 32 by 37 feet at the back. The front wall is broken by a beautiful tower 27 feet square, which rises 154 feet from its base. The building is remarkable for its fine proportions and massive dignity. Its cost was about $225,000. In front and over the handsome entrance is placed the inscription suggested by Mr. Rindge.

With characteristic modesty, the city's benefactor insisted, as a condition of his generous gifts, that no memorial to him should be placed in any of these buildings, nor should his name be connected with them. "What I am aiming to do," he said, "is to establish certain didactic public buildings." So upon each he wrote the lesson it was to teach. But his gifts will forever teach another lesson which his modesty would not mention, — the lesson of a noble life and fortune devoted to God and to his fellow-men.

"THE CAMBRIDGE IDEA."

By REV. DAVID NELSON BEACH.

Some four or five years ago, a phrase broke in upon our Cambridge speech with such suddenness, energy, and large significance as are hard even yet to realize. Who first used it I do not know. My impression is that our present Superintendent of Parks, then a leading writer on our Cambridge newspapers, was one of the earliest to apprehend its potency, and that he with his skillful pen somewhat furthered its becoming widely used. But whoever it may have been that first uttered it, and however serviceable the writer alluded to, or any other persons, may have been in bringing it into current use, certain it is that it survived and became a power of its own accord, and in a way that no single individual or group of individuals could either have initiated or prevented. It was like a new star coming into the heavens. It was like a newly discovered force offering itself to the uses of man.

That phrase stands at the head of this article; and the privilege has been accorded me of giving some account of the circumstances which rendered possible this phenomenon of human speech, and which led up to its making itself a felt power among us. I am desired, also, if I shall be able, to suggest its sweep, its puissance, and its vast promise among us for the time to come.

First, however, a word more about the phrase itself. Everybody began using it. It expressed something to their minds which had before been inexpressible. This was the secret of its popularity and of its ever-growing force. Moreover, its use was not confined to any single class or type of persons. The most cultivated men and women in our city, plain day-laborers, individuals of very large insight and vision, persons of the most circumscribed intellectual endowment, children, old people, those of all varieties of opinion and shades of ideas, —

alike introduced this phrase into their vocabulary. It struck a universal chord in the minds and hearts of men.

Another peculiarity of the phrase was its indefinableness. After it had come into use, and had been conjured by for several years, there appeared not long ago in one of our newspapers a "symposium," contributed to by many of our foremost citizens. The purpose of this broadside was, if possible, to define "The Cambridge Idea." I do not know where, in so small space, so much good civics can be found as in that broadside, which ought to be printed and spread widely over the country. The curious thing about the many articles contributed was that they greatly differed. They embraced the largest variety of sentiments. Each writer was sure that what he mentioned was precisely what the phrase meant. The chairman of the Harvard Board of Preachers, in addressing a large audience in a campaign of ours two or three years ago, essayed to define it as "The Christian Idea." Another speaker, also before a large audience in a later campaign, made bold to affirm that "The Cambridge Idea" was not an idea at all, but an ideal, Cambridge's ideality. It is not improbable that this speaker, like the preceding, was right; but it is beyond question that, had the phrase started under the name of "Ideal" or "Ideality," it would not have survived a day.

That must be a very large symbol of thought which could become, so soon, so abidingly, amongst such diverse persons, within such a large population, and with such spontaneity, such a standard or measure of civic and ethical values, as this phenomenal state of things indicates. Furthermore, there is something nobly inspiring about it, and that quite independently of neighborhood. I have seen, for example, many audiences beyond Cambridge, and even beyond Massachusetts, gathered to listen to some account of what has been happening among us, who — when this point of the description was reached, and the striking circumstance was held forth of a great and heterogeneous city bowing to the sway of such a phrase as this, and of its profound and transcendental meaning — would give way to the most enthusiastic applause, so that they needed, in some instances, to be restrained, if the speech were to go on; and I have known them to express the heartfelt desire that such a phrase might break forth likewise amongst them, and become equally regnant.

The task assigned me is exceedingly difficult. It would be easier to write a book on the subject than a brief article. I greatly fear, moreover, that I shall be unable to do the subject any justice. For I am to write of a subtle and spirit-like thing, having to do with the place where thoughts are born, and where aspirations acquire for themselves wings. The reader will readily see that nothing could be easier than almost or altogether to miss the point. However, I must try; and, as condensedly and suggestively as I may be able, I shall throw out some imperfect sketch of that which almost defies delineation or explication.

1. It must not be forgotten, then, what a heritage Cambridge has. One of the first places to be founded in our New England; the abode for a time of the Hartford Colony; the home of that unique group of men of whom Thomas Shepard was the leader and inspirer; by reason of the qualities in him, and in them, selected to be the site of the infant college; the gathering-place of the first ecclesiastical synod on the North American continent; the place where the first book in America was printed; the scene of many of the noblest passages in the colonial history of New England; the point where the prows of British boats touched the sand as the march on Lexington was begun; the soil on which occurred some of the hardest fighting of that eventful day; the gathering-place of the colonists; the point of departure for the epoch-marking battle of Bunker Hill; that tree still standing on the Common under which Washington took command of the American army; the centre of the army in the fateful siege of Boston; one of its extant mansions the prison of Burgoyne after the fatal blow, at Saratoga, to British supremacy on this continent; notable, from the days of the Revolution to this hour, for many great events; the sender-forth of the first company to be received into the service of the nation in its struggle for the suppression of the Rebellion; an intellectual centre unequaled, on the whole, by anything on the hither side of the Atlantic; the home especially of three great poets, two of them among the greatest in the annals of literature, one of them endowed in so unique a manner as to be verily amongst the immortals: always plain, simple, democratic, with respect for the poor man as well as for the rich, and for intelligence and manliness above all other things, — it is obvious that our Cambridge, so favored of God

beyond any community in this hemisphere, ought to have been expected to be the place where something unique and germinal in its relation to the civic and ethical well-being of this land should break forth.

2. But, passing beyond the historical significance of the city, its large intellectual meaning, and its being favored of God in the bestowal upon it of genius and of poetry, we need to come to the nearer years. I think it would be impossible for those streets which Lowell had trod, and for the slopes where he had chanted to himself the "Biglow Papers" and the deathless "Commemoration Ode," to be other than almost trembling with passionate desire for fair play, for good government, for the realization of the rights of man, and for the fulfillment of the civic and moral possibilities of all dwelling within its borders. Lowell was a better singer of good politics than a practical worker in its details, though his practical services in several particulars rank high in the annals of such endeavor; but the spirit of Lowell, and of his friends, in this regard, has for now not a few decades been haunting our streets and lanes, entering our homes, and dominating our council-boards. It is now a quarter of a century or more, therefore, since we have tolerated partisanship in our municipal affairs. Other fine traits and realizations of a civic nature have been long among us: the idea, for example, of municipal office as a municipal trust, the notion that the city must be administered as faithfully and sagaciously as any business concern of highest standing; various memorable battles as between the sons of Belial and the children of light in civic directions, which had stirred our city profoundly prior to the last decade; the wonderfully tonic prestige of large victories in these directions, and much more to the same purport. All this constituted our more immediate political heritage down to ten years ago.

3. It was in this condition that the city was, as it turned the milestone of 1885, and faced toward 1886. It had had a glorious past. That past was such as to make it all alive with noblest civic and ethical impulses. That past, for now a good number of years, had been rendering possible the abolition of partisanship in municipal affairs, and certain great and victorious struggles betwixt the baser and the nobler elements in the city's life.

But now there was creeping like a paralysis over the city that

Dana House
Pres. C.W. Eliot.
Residence of Bishop Lawrence.
St. John Deanery

chief modern foe to good civics, the power of the rum traffic. A sharp distinction is to be drawn between drink itself, and the questions having to do with it, and that greater abomination, the organized, covetous, unscrupulous traffic, which, making merchandise of human souls for its own aggrandizement, works the most fearful evils in almost all dense populations.

Massachusetts, by her local-option law of 1881, had been giving her cities and towns the opportunity to throw off this paralysis, and many of them had taken advantage of it, including our border city of Somerville, which, for some years, had excluded the saloon. The result was that Cambridge had to do a large part of Somerville's liquor business as well as her own. There being as yet no population limit for the granting of licenses, one hundred and twenty-two of these nefarious places existed within the city; disorder was on the increase in our streets; those elements which always attend the saloon were becoming dominant at the city hall; and our city fathers were so persuaded of the invulnerable position of the rum power, that they considered the city's vote of license as liberty to do the most absurd things at its behest. One of these transactions, the notorious DeWire case near Shady Hill, produced tremendous indignation in the university, in addition to the discontent which was widely diffused throughout the city.

What would most cities have done under such circumstances? They would have had a wild, not to say fanatic, outburst of indignation, hot speeches, a no-license vote for one year, an ill enforcement of the vote, and after twelve months rum back again worse than ever.

Not so did our city. Being deeply religious as it is, the churches joined together, and there was a tremendous religious campaign. But being also intensely practical as the city is, a large, representative, and non-partisan committee was organized, which canvassed our entire voting-lists in the interest of no-license, and printed a paper called "Frozen Truth," which was distributed to all voters, and in which the cold facts about the saloon, the "congealed veracity" as somebody called it, were laid before our people. Moreover this committee organized a most efficient campaign, personally, at the polling-places by the use of check lists, and so forth.

The result was, in December, 1886, the overthrow of the saloon by a majority of 566. This vote did not take effect

under our statutes until the first of the following May. In the mean time a Law Enforcement Association was organized, with the paradoxical purpose of *never enforcing the law;* but, the rather, of fixing the responsibility upon the proper officers, of supplying them with information, of holding up their hands, of seeing that large praise came to them for all faithful work, and of focusing the intelligence and indignation of the city upon all dereliction of duty in this regard.

4. This was the state of affairs on Sunday, May 1, 1887, a day observed religiously by the churches as the first on which the city had escaped from its great enemy, an escape which has never yet been nullified.

The saloon-keepers, however, were cheerful. They held on to their leases, and threatened to bury us the next year. They reckoned on the precedent of such revulsions in other cities, where the thorough methods employed by us had not been in use.

Our leaders in this effort, as the next election drew near, went around among our principal citizens, asking, in the interest simply of fair play, more than seven months in which to try the experiment; and so reasonable were our people, even many of those who doubted the wisdom of the permanent exclusion of the saloon, that they acceded to this request.

The same kind of campaign as that of 1886, only much further perfected in its details, was waged that year; and, though the conflict was tremendous, and each side polled nearly 1400 more votes than in 1886, the saloon was beaten the second year by the identical majority, 566, which had first abolished it. Then those very saloon-keepers, who had boastfully held on to their leases, hastened to get rid of them, and quit the city; and in the eight campaigns which have since ensued, the same stirring scenes have been reënacted, although each year has had its own distinctive issues in detail and its own unique and glorious fight.

5. But when the State at large, after two or three years, saw that the exclusion of the saloon had come to Cambridge to stay, straightway our city was thrust into the forefront, as that one community in the world of its size which had been able continuously, and by its own volition, to get the better of this great curse.

Consequently our literature, our speakers, our methods of

campaigning, in fact, everything that could throw light on our unique struggle, were in constant demand from widely over the State, and from beyond it. Chelsea, in particular, being in a worse condition than we had been, and in a county involving great difficulties in the enforcement of liquor laws, studied carefully our methods, and very soon following them, threw out the saloon, and thus became, hardly less than Cambridge herself, although under Cambridge's inspiration, an argument in the same direction.

Space does not permit even the most summary account of the influence which Cambridge has thus had not only upon the towns and cities of this Commonwealth, but widely over New England, and beyond New England, and even beyond the United States. This has been the more inevitable because of the startling and convincing array of results of our saloon exclusion, to which, most briefly, I am about to allude. The burden of correspondence which has thereby come upon many of our people, the amount of time and strength which they have spent in traveling to speak on the subject in distant places, and the proud crown of glory which this unique triumph has set upon the brow of our city, cannot here be described, and can hardly be imagined.

6. The climax of all this was reached when, in the election of 1895, the city, realizing that its vote would determine the character of the fiftieth anniversary year of our present municipal organization, gathered itself together, and, in a peculiarly difficult and malignant campaign which was being waged on behalf of rum, — in the room of its previous majority of 599, and of the largest majority which it had ever cast, namely 843, — broke all records, and registered 1503 as its tenth annual verdict against the saloon. That memorable day, the ringing of the bells in the evening, the jubilee meeting that was held, the enthusiasm, for days and weeks thereafter, of our people over this unprecedented victory, this tenth milestone of our success, will never be forgotten by those who in any way participated in the same.

It is impossible in this article to treat this general subject with any fullness, or even in adequate outline. The reader is referred to Mr. Edmund A. Whitman's admirable pamphlet, "The Cambridge Idea in Temperance Reform," prepared as a part of the Massachusetts exhibit for the Columbian Exposition,

and of which a new edition was published in aid of the Ohio Anti-Saloon Congress of January of the present year. Happily this treatise is electrotyped, and by applying to Mr. Whitman, can be reproduced to any extent that may be desired, whether for use in this State or beyond it, for the mere cost of paper and press-work. Besides this classic statement on the subject by one to whom, almost more than to any other person, our great overturn was due, the reader is referred to the files of the "Frozen Truth," and of our Cambridge weeklies, and to a number of special articles prepared by various persons, and particularly by the longtime chairman of our Citizens' No-License Committee, Mr. Frank Foxcroft.

All that can here be further said in this connection is to refer briefly, first, to the results, and then, to the methods of our excluding the saloon.[1]

7. As the result of the exclusion of the saloon, though doubtless other causes have had some part in the same, it may be mentioned that our population has increased nearly twice as fast as before the saloon went; that the quality of the increase has much improved; that new houses began to be built twice or

[1] Following is a tabular exhibit of the vote of Cambridge on this question since the State Local Option Law went into effect in 1881: —

TABULAR EXHIBIT OF VOTE.

	Yes.	*No.*	*Yes Majority.*	*No Majority.*
1881	2,614	2,608	6	–
1882	2,772	2,379	393	–
1883	3,116	2,522	594	–
1884	3,659	2,522	1,137	–
1885	2,764	2,234	530	–
1886	2,344	2,910	–	566
1887	3,727	4,293	–	566
1888	3,819	4,483	–	664
1889	3,300	3,793	–	493
1890	3,611	4,180	–	569
1891	3,565	4,051	–	486
1892	4,763	5,606	–	843
1893	4,539	5,329	–	790
1894	4,500	5,099	–	599
1895	4,160	5,663	–	1,503

Population in 1887 (when vote took effect) . somewhat under 70,000
Population in 1896 . . . . . about 84,000
Employees of Cambridge factories, 1890 14,208

thrice as rapidly; that our valuation had increased — some three years ago when such statistics were most exhaustively compiled — over the old rate of increase in the corresponding period under the saloon, $6,000,000, enough, it should be said, to bring into the city treasury, on the average rate of assessment, $90,000 clean money, in the room of perhaps $60,000 which might have been received of filthy money from the saloon; and that, instead of above a thousand tramps who used to be accommodated in our station houses annually, hardly more than a hundred had been entertained annually during the same space of time. Our new savings banks deposits, moreover, in the year referred to stood, in round numbers, $586,000, as against $140,000 the last year of the saloon; while the new depositors of that year were 1992, as against 861 the last year of the saloon. Furthermore, not a small part of these increased deposits was going back to workingmen for the building of their homes; and this says nothing of the upspringing of several prosperous coöperative banks which were doing much the same thing. Our manufacturers, our merchants, and our employers of labor in general, testified year by year, through the columns of the "Frozen Truth," to the increased sobriety, industry, skill, and efficiency of their work-people, owing to the absence of the saloon. Physicians, clergymen, charity workers, and all persons at all familiar with the actual conditions of the great bulk of our population, bore witness in the same direction. But all this, I must remind the reader, is only a partial summary of the tangible specific results growing out of the exclusion of the saloon. I indicate in addition — hardly more, however, than mentioning them — three supreme results: —

(1) Our city government has been cleansed, steadily improved, and continuously elevated in its ideals and in the quality of its work. The young woman who, with her "best young man," going down Main Street one moonlight night, paused with him before our new city hall, and, after a friendly dispute about what was the chief glory of that building, "scored," as the young man admitted, by declaring that the most beautiful thing about that building was that there had never been a liquor license signed within it, — expressed, in a nutshell, the substance of the matter in this direction.

(2) In the second place, previously existing lines of division have been wiped out. Catholics have come to love Protestants,

and Protestants to love Catholics. Evangelicals have come to love unevangelicals, and unevangelicals to love evangelicals. Betwixt the so-called "religious" and the so-called "non-religious," as notably in the Prospect Union, the offensive lines have to a considerable extent disappeared. Betwixt Republicans, too, and Democrats, and Third Party people, and so forth, the same state of things has come to obtain. Those hateful lines, also, of local jealousy or antagonism between the original *nuclei* of the city, East Cambridge, Cambridgeport, North Cambridge, and Old Cambridge, have been largely obliterated, so that we have become one people. This has been the outcome of that great price of agitation and of united toil whereby we have obtained our newer freedom. Father Scully put it right, in a meeting to open the no-license campaign of 1894, when he stood up and said: "The saloon seems to have been among us to keep us by the ears one against another. We Catholics did not like you Protestants, and you Protestants did not like us Catholics. But now that the saloon is gone, we love one another, and are nobly helpful one toward another." And when the Catholic bell of St. Mary's leads off, and the Trinitarian bell of Prospect Street, and the Unitarian bell of Austin Street follow after it in that threefold chiming which, each election night, tells to our city and to our neighbor municipalities the tidings of our annual victory over the saloon, here again — as with the young woman and her lover regarding our redeemed civics — is the symbol of that new unity which has come to Cambridge.

(3) There is one other result, the highest of all. It is that the name of which is put in quotation marks at the head of this article. For when, having a polling-list of 12,000 or 13,000, and being unable year by year (until this last) to get a majority greater than 843 (though it never fell lower than 486), it was obvious each year that the city, by but the turn of a few votes in a hundred, might bring back the saloon, it could not but follow that the friends of the saloon, aided by the rum money of Boston and of other places, would make a tremendous fight. Such has been the fact; and consequently, every year, the result has been in exceeding great doubt, and our struggle has been something fearful. It has followed from this fierce annual conflict that the whole city has been aroused; that we have had, annually, a month of what has been virtually a public insti-

tute of civics and of practical ethics; and that, to a degree which no one not a resident can realize, all the best forces of our city, irrespective of creed, or politics, or social rank, have been fused together and uplifted with one common moral and spiritual impulse. It was about midway of that struggle that suddenly, as I stated in the opening paragraph of this article, but as naturally as great thoughts are born ever out of the fierce travail of our race, the phrase, "The Cambridge Idea" broke in upon our Cambridge speech. Of this I shall have a word more to say as I close. Let it suffice now to remark that in this idealism, this stirring up of the largest and best civic thought of which every right-meaning person in the city is capable, the supreme result of our ten years of struggle registers itself.

8. Only a few sentences now, as to methods. These have been: (1) No candidates, — that is, as no-license men, we have not, in that capacity, had anything to do with candidates; (2) No politics, — in the same sense; (3) No temperance shibboleths, — that is, a platform broad enough to include all haters of the saloon, even though they might be drinking men; (4) Dividing the question, — that is, the concentrating of attention solely upon this issue, Shall, or shall not the saloon come back? (5) A campaign of facts, — that is, the leaving of abstractions, and a thorough inductive inquiry as to the relative effects of the saloon with us and the saloon gone; (6) An entirely independent, and yet an absolutely harmonious and mutually helpful twofold campaign, — the one religious, in the Catholic and Protestant churches, and the other purely secular and along such lines that all right-minded men could join upon the one issue raised; (7) Hard work, — work as if one vote might decide the question.

9. Leaving now the *résumé* which I have given of the most distinctive movement, in civic directions, which has marked our city from 1886 until this present, a few words require to be added about the relation of all this to the larger life of Cambridge. Let no man, then, suppose that there has been anything fanatical about this movement. It has been eminently rational, sane, and practical. When President Eliot, addressing an immense audience in Union Hall two or three years since, stated how radically in temperance theory he differed probably from most of those present, but proceeded to testify that he

had for several years voted No, and was about to do so again, partly because a license policy could not, in the present temper of the city, be enforced, but more because the city had been educated up to the point where it could do without the saloon, he gave to our movement the highest praise, from a large point of view, that it has ever received. The praise was the more noble because it was entirely and absolutely true. Furthermore, the city got upon this thing because it had to; because the forces already at work within itself drove it along this path as by an irresistible impulse. It was a stage of civic evolution which had to come. Still further, let it not be forgotten that, though the exclusion of the saloon and the superb cognate results which have followed therefrom have constituted the most striking outward feature of all these unfoldings, nevertheless, this, as it were, has been but a drop in the bucket beside that larger movement of which it has been a part, whereby a profound civic sense, civic consciousness, civic purpose, and civic consecration have become the normal temper of our great and heterogeneous population. As a New Testament writer urges his readers to "lay aside every weight, and the sin which doth so easily beset" them, so Cambridge, joining battle with one special besetting sin, has toned up all the forces which make for righteousness within it, has won for itself a living unity, has brought itself under the sway of vast constructive ideals, and has thus been, in very deed, laying aside every weight. And as I believe it is true that, in our university, civics and economics are taught as they are nowhere else taught in America, so I believe that the young men let out from its lecture-rooms have only to repair to our city hall, and to walk through all our borders, to find practical illustrations of good civics and economics which cannot be paralleled in the New World.

10. Thus has it come to pass that, two hundred and sixty-five years from the founding of Cambridge, and fifty years from the organization of its present form of government, the most glorious decade of its entire history is also rounding out. For the sole purpose of great history, of high intellectual privilege, and of the blessings of poetry and other supreme manifestations of genius, is to produce fruit. *Noblesse oblige.* And all that Thomas Shepard and the bringing hither of the college and the glorious storied days of the municipality, all that the Washing-

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ton Elm and Craigie House and Elmwood and our cis-Atlantic Westminster at Mount Auburn might presage, have begun to fulfill themselves in that high place, as regards civic and ethical values, out into which Cambridge has been girding her loins to march, and unto the realization of which her plainest and humblest people, and her most intelligent and highly endowed, are alike consecrated. Thus, moreover, was it, that when, four or five years ago, there broke into Cambridge speech — so suddenly, with such energy, and with such large significance, that these can hardly yet be realized — the phrase, "The Cambridge Idea," that spiritual ideal, that conception of a city of God on earth, that indefinable aspiration through which alone either individuals or communities may come to their highest, found a language and a watchword which held within itself the secret of our city's destiny.

— Should I be quite true to my profession, or to a habit which I have had in Cambridge during the best years of my life, if I failed, as I close, to drop into a few sentences of special exhortation in naming a very particular type of reasons why we should all be dedicated to "The Cambridge Idea," and should go forward with our whole might into the realization of that measureless and as yet unimaginable future which, through its puissance, lies before our dear city?

For students are coming hither by the ten thousand, from decade to decade. They will not be able to resist that into which it is possible for "The Idea" to make Cambridge. Orators, poets, jurists, statesmen, educators, scientists, artists, reformers of the time that is to be, will be ever among us. As they shall stroll up and down the Charles, as they shall linger in our entrancing places, — like the Cam banks at the elder Cambridge, like the Long Walk at Oxford, like the terraces at Edinburgh, — shall we not, by what we shall make Cambridge, so build the ennobling, the true, and the beautiful into their lives that, through them, we shall bless inestimably the whole world? That, brothers, is our task.

But, one asks, will the greatest genius whom all this shall enrich be a university man? Probably not. Probably he will be the child of some poor operative in one of our Cambridge factories, or of some artisan or small tradesman among us. But the beautiful and noble Cambridge will touch his soul, and the divine mystery of existence will work itself out in him and

through him, as it did in and through the boy by the Ayr, and the boy by the Avon. For Nature likes to be original, and to have her own way; and the most that we can do to help her — as was done by the Ayr and by the Avon — is to make everything beautiful and true. This shall we not do in Cambridge? Shall not "The Idea" have its full scope? Then, as surely as tides rise and moons fill out their slender crescents, the city's age of intelligence, of inspiring history, and of great poetry shall be even more in the future than in the glorious past.

THE CAMBRIDGE LITTORAL.

By FREDERIC H. VIAUX.

When the lone pioneer Blaxton, voluntary Crusoe of Shawmut, climbed to the peak of the hill at the foot of which he had pitched his solitary camp, he beheld to the westward two great bays, barely held apart at the base of the slopes by a low, narrow path disappearing in the highlands beyond. In either of these spacious coves the navies of the world of the time might have found ample anchorage. A winding river, flowing down from the westerly hills, broadened into a noble estuary that formed a land-locked harbor, and, narrowing again, rushed with a sister stream in confluence towards the open sea.

It was a bountiful stream of fresh water that brought Winthrop and his men to the hills of Blaxton's peninsula, on the slopes of which they settled and faced the blasts of the east wind. Had these life-giving waters gushed forth on the farther bank of the great bay to the north, the Boston of the pioneers would have been founded there, — there would have been the sheltered harbor and the seat of commerce, with the city of the future gradually encircling the great inland haven protected by Blaxton's hills from the ocean winds and storms.

If Winthrop and the new-comers turned their backs on the estuary of the Charles, as a port, there were some who, allured by the gentle slopes of the opposite shores, crossed it in search of fields to till and meadows for pasture. But it was more than a quarter of a century (1660) after their coming before they found courage to span the river with a rude bridge at its narrowest point. Thereafter they lived on and on with the most meagre means of communication with the parent settlement, despite the dignity of a college foundation, and the war of the Revolution had been fought and independence won, the Constitution had been adopted and Washington was President of the United States, before the people finally abandoned their uncer-

tain ferries and spanned the river with a causeway and bridge, thus gaining ready access to Blaxton's hills and the great town of the day that had grown up upon and around them.

That part of the original New Towne which is now Cambridge held, in 1793, when the first bridge to Boston was opened, more than a century and a half after the coming of the forefathers, but one hundred and forty-eight houses, which sheltered twelve hundred souls. That the new link across the Charles was the most happy material event that had happened to Cambridge since its foundation — the college, of course, excepted — was proven by the rapid growth of the town that at once followed its opening. The twelve hundred of 1793 became twenty-four hundred in 1808, and obtained another bridge, this time from Lechmere Point.

It was the northern bay which had kept Boston and Cambridge apart so long with the breadth of its waters and the wide stretches of its marshes and flats. These tide-covered lowlands skirted the town its entire easterly and southerly sides from Charlestown to Watertown, a distance of nearly five miles. More than a third in extent of what is now Cambridge was lapped by the spring-tides up to the beginning of the century. To the east a mile of lowlands lay between the town and the channel of the Charles. As long as an abundance of tillable land satisfied a sparse population, the marshes, as yet undefiled, performed auxiliary service to the farmer with their supplies of salt hay, and the flats, as yet untainted, gave him the mussel and the clam in plenty. The yield of the grass gave but slight value to the riparian lands. It was not until the people grew in such numbers as to exhaust the uplands, that any attempt was made to reclaim the lowlands for habitation or commerce. The bridge of 1793, which became the great highway from the towns of Middlesex to the markets of Boston, and so quickly doubled the population of Cambridge, gave the first impetus to the work of pushing back the sea. Its long causeway was laboriously made over the marshes, and, later, little by little, a rod of land was gained from the waters here and there on either side as the increasing traffic justified the enterprise of shop or of inn. The new prosperity of the town awakened the ambition of the more sanguine. Why suffer Cambridge to be merely a roadway to the capital town, when the great basin of the Charles offered as ample a roadstead as the harbor below?

Let the market-wagons end their journey in Cambridge and there exchange their burdens for the freights of the world brought direct to the wharves of Cambridge. Why tamely suffer Boston to monopolize the commerce of the seas, when Salem and Newburyport and New Bedford successfully disputed for a share? Out of such ambitions grew the ditch canals of the new port of Cambridge, and the laying out, on a grand scale for the day, of the Broad Way leading over the marshes to the high lands. But the enterprise, praiseworthy as was its conception, languished, and dashed the hopes of its courageous promoters. Like the bridge, however, it stimulated settlement upon the marshes; for the excavations of the canals were cast up on either side, and strips of made land grew along the new water-ways and gave room for wharf landings and desultory structures. Similar results followed the opening of the Craigie Bridge, in 1809, in East Cambridge.

The projection of the railroad across the eastern marshes, after Cambridge became a city, divided their expanse with its raised embankment for rail service into two almost equal parts. Although a narrow culvert here and there half admitted the pressing tide, a rampart was thus formed that kept the great tract of lowlands between it and the uplands comparatively dry and firm; and the establishment of industries on the barren lands, along the new path of the iron horse, was encouraged. Thus by the creation of the bridges and of the railroad, great sections of the marshes were cut off from the inroads of the sea, and invited from their exceeding cheapness those of means too small to enjoy the luxury of the far more costly solid lands. These for the most part camped on the wastes as they were, content to raise them by gradual process, if at all, with the scant refuse of their homes. With a blindness to the inevitable outcome of such ill-conditioned settlements that seems strange to us now, the municipality permitted their haphazard growth and continuance until their offensive conditions threatened the well-being of the whole city, and finally compelled an interference so costly as to burden for a time the public resources. Extensive areas of the original marshes were thus reclaimed largely out of the common purse. It would have been well in the light of what we know now, if a long step further had been taken, and the entire littoral of the city had been then condemned to public uses; for private capital con-

tinued to shrink from the hazardous enterprise of reclaiming these border lands, so forlorn was the outlook for their commercial utilization. And so the outskirt river-lands remained as a standing menace, and as the people grew in numbers, became more and more an offense to sight and smell, a desolation, forming a forbidding entrance to a beautiful and famous city.

Meanwhile, Boston had been early forced, through the confinement of her narrow limits, to overcome the handicap of the tides with laborious seizures of the encompassing lowlands. From the beginning of the present century large areas of tide-covered lands were successively reclaimed and quickly occupied. The great northern basin was in turn attacked with vigor, until half its water-lands was condemned to the uses of man. The Commonwealth, successor to the old rights of the Crown in submerged lands, took part in the work of recovery, and helped to solve the problem of necessary expansion at large profit both of money and of urban advantage. A quarter of a century ago, the narrow neck of land, so low as to be often washed by the spring-tides, that Blaxton beheld from his hilltop disappearing into the western highlands, had by man's work grown far broader than the peninsula of which he was the original settler.

It is to the outcome of the work of the State and of its capital city in reclaiming the southern shoals of the great estuary of the Charles that Cambridge owes in large measure the improvement of its own riparian lands. For among the highways that were run for the people's convenience over the commonwealth lands was West Chester Park, which crossed all the great arteries of the city, and, carried as it was straight to the river's bank, clearly invited extension over the waters to the sister community beyond. Again Boston, awakened at this time by the example of other great municipalities, began to consider seriously the acquirement of park areas. A beautiful system of open places was outlined in 1876, and, of the many attractive spots suggested here and there throughout the city for common use, it was officially proclaimed that the gem of them all would be the great interior basin of the Charles.

The building of West Chester Park to the river's edge foretold its ultimate extension to the opposite bank. The public suggestion of the adornment of the Boston littoral encouraged the idea of its duplication on the northern shore. The proprietors of the Cambridge lowlands took heart, and began to dream of a

bright future for these hitherto worthless wastes. To the adornment of the basin, commerce of every kind, long hampered by the hindrance of the manifold bridges, must give way, and only fine habitations face the wide esplanades on either side. For such purposes the Cambridge shore, that caught the sunshine of the entire day, was far superior to the Boston bank. The summer breezes from the Brookline hills, gathering cool refreshment as they swept over the bay, shunned the southern shore to bring full benefaction to the Cambridge lowlands. Here was a solid foundation of clay and gravel near the surface, while the silt of centuries had lain deep on the other side. When the bridge was built across the bay to the fine home quarter of Boston, the remote lands of Cambridge were brought conveniently near to this and all other centres of the capital city; furthermore, these lands were in the heart of what was to be the great metropolis of the future, when Boston and its fringe of beautiful cities and towns should come together under a single name and assume a place among the great cities of the world.

As soon as the stress of the commercial disturbance of the seventies was relaxed, the first step forward in the general improvement of the Cambridge shore of the basin was taken. In the summer of 1880, the proprietors of two thirds of the lowlands were brought together in conference. Out of their deliberations sprang an agreement to make common interest in a work of improvement, which was projected on broad lines. The submerged lands lying between Main Street on the north, the Grand Junction Railroad on the west, and the bay of the Charles on the south, formed an irregular triangle, covering an area of about two hundred and fifteen acres, greater in extent than the Back Bay district of Boston between Boylston Street and the river. There were no structures of any kind on this territory except along the line of Main Street. The water line from bridge to bridge of the lands was about nine thousand feet, nearly two miles, in length. The northerly half of the district was almost entirely flats, uncovered only at low tide. A tongue of marsh, with a fine gravel beach, known as Whittemore's Point, made out into the waters in the centre of the lands, and beyond this, to the south, the flats were nearly equal in extent. Great indentations had been formerly made in these marshes for material to fill lowlands in the old westerly end of Boston. It was planned to embrace the whole of this

triangular territory in a harmonious scheme of development for a residential quarter of the first class with an ornamental esplanade two hundred feet wide, contained by a substantial sea-wall fronting the water, extending from bridge to bridge, in complement of the proposed embankment on the Boston side. The material for filling the lands was to be taken from the ample stretches of gravel and sand in the basin and appurtenant to the territory. Thus the reclamation of the lands would be followed by the removal of the nuisance of the offensive outer flats, and a full basin of water, independent of the tides, would be created fronting the broad esplanade. Effort was to be made to hasten the construction of the bridge from West Chester Park, the extension of which across the river would strike the territory to be improved at a central point.

Appeal was made to the legislature of 1881 for authority to permit the proprietors to unite in carrying out their enterprise of improvement, and liberal corporate powers were granted them under the name of the Charles River Embankment Company. The esplanade two hundred feet in width was provided for, to be appropriated to public use, and a right of eminent domain to project it beyond the limits of the combined ownership of the incorporators to the bridges at either end as termini was granted. The capital of the company was fixed at not less than five hundred thousand dollars, with permission to increase the amount to not exceeding two millions of dollars. Authority was granted the city of Boston by the same General Court to begin the improvement of the river bank between Craigie and West Boston bridges. The following year power was granted by the legislature to Boston and Cambridge to build conjointly a bridge over the bay of the Charles from a point on Beacon Street, to be determined in concurrence, and the city council of each city made an appropriation sufficient to secure soundings for piers and plans for a structure. Early in 1883, committees of the two city governments agreed upon the location of the bridge as an extension of the lines of West Chester Park. In February of the same year, the incorporators of the new Charles River Embankment Company, after a vexatious delay, took conveyance of about one hundred acres of the land within the territory to be reclaimed, and, in conjunction with other proprietors controlling some fifty additional acres, began the work of improvement. The first section of retaining-

IRVING STREET.

wall, one thousand feet in length, was built on a solid foundation of gravel during the summer and fall of 1883, and a large quantity of material was excavated by dredges from the flats fronting the wall and deposited on the lands behind.

This was the first material work done towards the adornment of the Charles River basin and the devotion of its shores to public uses. Boston began what is now her Charlesbank some time later. Cambridge, recognizing the vast importance of the successful improvement of the large districts of offensive lands on her border at private cost, and appreciating the magnitude and the difficulties of the enterprise of the Embankment Company, wisely relieved it from the burden of increased taxation for a period of ten years, and in return the company obliged itself to build over its lands a wide approach to the proposed bridge, and to fulfill other requirements. Further, the city authorities did all in their power to hasten the construction of the new avenue across the Charles. Obstruction to the measure was prolonged in the city council of Boston, in spite of the petition of many of the leading citizens and of the heaviest tax-payers of that city, until, in 1887, recourse was had to the General Court for relief, and a mandatory act was obtained enforcing the construction of the bridge and providing for a commission with full powers to accomplish that end. The bridge act of 1887 was unique in that no former legislature had exerted such compulsory powers in enforcing a public work of this order upon two of the larger cities of the State, one of which through a representative body had declared by a large majority for its indefinite postponement.

The passage of the enforcing act was followed by a quick beginning of the work on the bridge structure under the commission in charge, and the work of reclaiming the lowlands within the territory of the Embankment Company was resumed. The completion of the Charlesbank, in Boston, which was at once taken into popular favor as the most health-giving of all the new commons, directed general attention to the opportunities of the Charles River. Agitation was begun for the extension of the Boston embankment farther up the stream; the question of the closing of navigation on its waters to mast vessels, thus definitely devoting its banks to residential and park purposes, was warmly taken up; the pollution of its tides by noxious sewage was denounced, and an era of popular appreciation of the noble

river and its broad estuary set in, out of which is fast coming the fulfillment of its destiny as the most beautiful water-park in America. The general discussion of Charles River questions led to the creation of a special commission (1891) charged with inquiring into and reporting upon the proper treatment for the public weal of the historic stream. This was followed by the recommendations of the Metropolitan Park Commission, a new body, created in 1892 to supplement the work of Boston, and to provide open spaces for the larger Boston, in favoring the appropriation of the shores of the river to park uses. The new bridge, fittingly named from the college to which its connecting avenue leads, was finished in 1890, but, awaiting the settlement of a question of crossing the location of the Grand Junction Railroad, was not opened to public use until 1891. After the opening of the bridge and its avenue, renewed progress was made under this encouragement, with the extension of their sea-wall and the covering of their submerged lands by the Embankment Company. It remained for Cambridge to take the final step in the work of furthering the consecration of the Charles to adornment and recreation. A strong popular agitation of the question of public parks (1892) led to the creation of a municipal park commission, with proper powers. A fortunate selection of three citizens uniting strong practical wisdom with excellent taste and judgment, to carry out the wishes of the people, was made. The work of this commission was as speedy as it was effective. Within a few months after its appointment, besides inland reservations, it had set apart forever to the use of the people a ribbon of shore lands in East Cambridge, between Craigie and West Boston bridges, fourteen hundred and sixty feet in length, and the entire Cambridge bank of the Charles from the westerly terminal of the esplanade under construction by the Embankment Company almost to the Watertown line, a distance of over three miles.

The waste areas to the north of Main Street have also been slowly undergoing changes for the better. Of the intricate system of canals devised for the creation of the port that was to rival Boston, one after the other succumbed to the encroachment of trade. To-day, only a suggestion of the mighty enterprise of the canal-builders is left in the Broad Canal, which will itself disappear in turn. West of the location of the railroad, numerous factories of importance, and, lately, of still larger

consequence, have been erected. A large fraction of the district known as the Binney fields obstinately resisted settlement, but now for the most part has become happily embraced in the park areas of the city. South of the railroad, the recovery of the lowlands, although almost encompassing the most thickly habited section of Cambridge, has been till recently slow in its progress. Repeated effort through corporate union of landed interests proved unavailing to effect their transformation.

The incorporation of the city and the projection of the railroad, promising a new era of prosperity and growth, encouraged certain merchants, in 1847, to undertake the improvement of the overflowed lands in this quarter. Corporate powers were secured by them from the General Court, with authority to buy and develop lands between the highlands of East Cambridge and the River Charles and north of West Boston Bridge; and the Cambridge Wharf Company was organized. Beyond the purchase of a tract along the river front and the conception of a plan of improvement, this company did little, and finally released its entire holdings to an individual purchaser in 1890. A second corporation was created by the legislature in 1861, under the name of the East Cambridge Land Company, to attempt the work of reclamation in the territory covered by its predecessor. A large district covering some seventy-five acres, lying between Portland Street and Third (formerly Court) Street and the Broad Canal came into the possession of this company. On these lands a number of manufacturing structures and workshops, some of notable character, have been erected; but after thirty-five years of effort, and despite the strong and steady growth of the old districts of the city during that period, quite one third of the available holdings of this company still remain to be built upon. In 1874, a third charter was granted by the legislature to other citizens desirous of solving the utilitarian problems in this section. The Cambridge Improvement Company was thus formed, and became possessed of between fifty and sixty acres of lowlands, mostly flats, between Third Street and the river. The interposition of Broad Canal between these lands and Main Street, always a seemingly insurmountable obstacle to the use of these lands, effectually closed them from advantageous connection with Boston. With the aid of the authorities of the municipality, this barrier was, however, about to be removed, when the disastrous financial panic following the

initiation of this enterprise, which paralyzed all energies, effectually put an end to the efforts of this company. A short section of stone wall on the river front, ragged from neglect, remained as a forlorn monument of the fallen fortunes of this enterprise until 1889, when a citizen of Boston, convinced of the possibilities of these barren lands, situated as they were in the heart of a great community, and within a trifling distance of the commercial centres of his city, acquired nearly fifty acres of this territory, including the entire water front, half a mile in length, lying between the canal and either bridge.

The effort to recover this land was at once renewed, and this time with effect. First Street was at once filled, from its terminus at Binney Street to the line of Broad Canal, a thousand feet in length, and the sea-wall along the river extended easterly. By a wise coöperation of the city authorities and the courageous investor, the Broad Canal was at length bridged, and entrance gained to Main Street at its junction with West Boston bridge. Since that time, the work of recovering the waste lands of this part of Cambridge has been rapid. Already about fifteen acres of original flat-lands have been filled. First Street has been recognized by the city authorities as a thoroughfare of such importance as to warrant a pavement of granite blocks. Its sidewalks, ten feet in width, will be asphalted. On this street stands, finished but yesterday, one of the noblest monuments of industry yet erected in Cambridge, a great structure, whose purposes are proclaimed by Athena, goddess of letters, whose heroic effigy proudly crowns its pediment.

Of the ancient marshes and flats in this quarter of the city, between the highlands and the river's line, over one hundred acres still await reclamation. It is to this district that Cambridge must largely look in the future for its prosperity. For here, under wise encouragement, should grow up a great manufacturing quarter second to none other in or near the capital city. All elements necessary for the creation of a commercial district of this character seem to be here in happy conspiracy. It is almost at the gates of Boston. First Street is only a mile distant from the City Hall of Boston, and, accordingly, nearer to that accepted centre than the Hotel Vendome, than the new Union station now proposed on the Back Bay, than Dover Street, than all South Boston, except a small portion of the newly made lands, than all East Boston, than all Charlestown

but a small fraction. Barges of the largest size may be moored at its wharves, and, by spur from the main line of steel track, the products of its factories may find direct land transportation over the continent. Two main thoroughfares lead from this quarter straight to the heart of the great city over the narrow waters in one direction, and out into the cities and towns beyond in the other. Here wide streets will afford ample room for traffic, and preserve the play of sunshine and the freedom of air. A dense population is at hand to supply the artisans of the coming industries. A river park on the one side and a land park on the other will furnish the toilers and their children with refreshment and recreation. The policy of the city in encouraging the private reclamation of its lowlands, now long since established, will favor the proper improvement of this quarter with increased generosity as its possibilities become more fully appreciated. For with its appropriation by the great hives of industry will come an increased prosperity to the community. As a purely residential city, Cambridge cannot hope to be more than an annex to Boston. The presence within her borders of large commercial interests will give her the importance of a self-sufficing entity, and a hardy independence of her neighbors, great or small. To the spread of the quarters of business more than to those of habitation will be due that happy increase of financial resource which is so necessary for the pressing wants of a growing community. Long before Cambridge celebrates a centennial anniversary of urban existence, these lands, every inch reclaimed from the deep, and filled with workshops and warehouses, will be pointed out with pride as a distinctive quarter of the city, its past nakedness and desolation buried and forgotten.

Thus, in this memorial year, the results of the work of the last few years in solving the grave problems affecting the Cambridge littoral sum up largely. It is only thirteen years since the first stone of a sea-wall facing the bay of the Charles as the outwork of a public promenade was laid in the solid gravel of its bed. To-day, the wall stretches out far from either side of the Harvard bridge, in front of it an always open basin, and behind it the promised esplanade, two hundred feet wide, and thirty-five hundred feet in length, ready for the decoration of trees and plants to justify its exceeding value to the Cambridge of the future and its further extension along the river banks.

To-day, the wall of the Charlesbank of East Cambridge is built, and a beautiful section of river park will at no distant time be there open to the people. To-day, with the exception of a few hundred feet, the entire littoral is in the hands of the people. The progressive improvement of the river's banks under public control will force the wholesome recovery of all the abutting lowlands at private initiative. In the commercial district to the north of Main Street the Binney marshes have given way to a health-giving common, and the obnoxious flats are fast disappearing. Since 1892, the bridge at First Street has been built, and fifteen acres of the adjacent lands have already been reclaimed for settlement; it will be but a short time before the tide is finally driven from this entire quarter. To the south of Main Street, a great section of the ancient shallows, one hundred and twenty acres in extent, has given place to clean uplands, inviting the builders of houses. Beyond, to the west of the railroad, a million feet of the marshes have been raised, and a site for a great athletic campus is made. If all but a tithe of this great work has been done during the past five or six years, what may not be accomplished in its active prosecution within the next decade? There can be now no retrograde action in the treatment of the shores of the beautiful river. The transformation of the desolation that threatened the well-being of the people, that mortally offended the sense of the beautiful, that foreboded a staggering burden of public debt, has so far progressed that the quick consummation of the hopes of the past may be confidently anticipated. Nor will Cambridge be long alone in the labor. Her example must stimulate the great sister city to happy imitation on the south shore of the bay, and hasten the park scheme, covering the upper reaches of the Charles, to completion. When the work is finally completed of devoting this river and its banks far up the stream to the pleasures of the people, and all the menacing lowlands are things of an unhappy past, a great pride will fill the hearts of the people in the possession of so beautiful a spot, and the stranger will come from afar to admire. And Blaxton, could he climb again the high peak of his hermitage, and gaze on the splendid panorama about him, would indeed marvel at the mighty works of those who have come after him.

CAMBRIDGE WATER-WORKS.

By HON. CHESTER W. KINGSLEY.

I PROPOSE to give a history of the beginning and progress of the chartered water-works in Cambridge. The facts, new to many, and perhaps not altogether uninteresting on an occasion like this, will thus be recorded for future reference.

The first charter was granted to the Cambridgeport Aqueduct Company in April, 1837, to bring the water from a spring or springs on what is now Spring Hill in Somerville. The water was brought in wooden logs, and a limited amount was supplied in the lower Port for many years.

In 1852, a charter was granted the Cambridge Water-Works, and in 1856, the corporation was authorized to take the water of Fresh Pond. Here our present water-works began.

In 1861, the Cambridge Water-Works was empowered to buy out the Aqueduct Company, which it did, and the city of Cambridge in April, 1865, was permittted to buy and acquire the rights of both of these companies, which was done by vote of the city, and thus all the water-works in Cambridge became public property.

In 1875, Cambridge was authorized to take the waters of Spy and Little Ponds, and Wellington Brook. Subsequently, all of these sources of supply were connected. Spy Pond afterwards was, however, condemned as a source of supply for domestic use, and no water was drawn from it for the use of Cambridge, but the waters of Wellington Brook and Little Pond helped furnish a supply for several years by being brought into Fresh Pond. As the city grew the demand for water increased, until these sources were entirely inadequate, and other water was looked for.

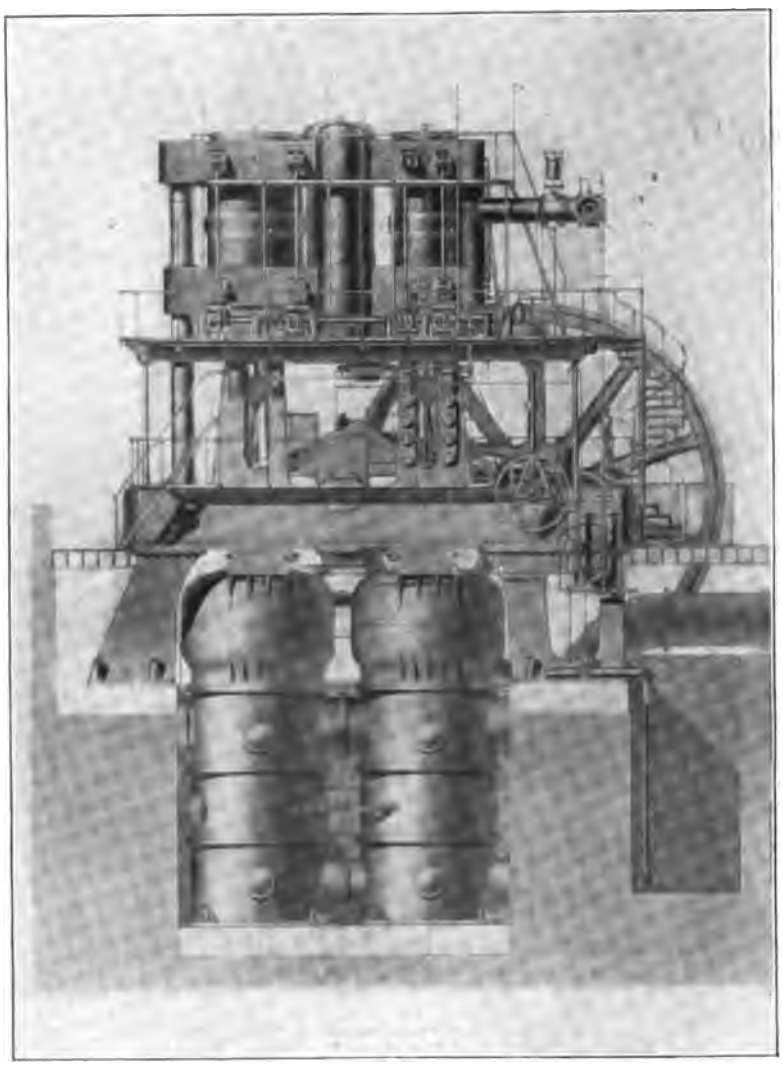
May 21, 1884, the additional privilege was given to Cambridge to "take the waters of Stony Brook and its tributaries for the purpose of extinguishing fires, and for domestic and

other purposes," and with the added right to "take land for building dams, creating storage basins, and doing everything else necessary to utilize the water thus given them." The act was accepted by the city council, the waters were formally taken, and have since been paid for and brought into Fresh Pond.

Stony Brook and its tributaries have twenty-two square miles of watershed, and in 1893, the driest of the last eight years, they furnished by measurement more than eighteen million gallons, daily average, for the whole year. This was three times as much as we used. It will be seen by this that all that we need to do, to secure water enough for our city for many years, is to create storage basins to retain the water during the spring freshets, and hold it until the dry season comes. The Water Board is now making a storage basin on Hobbs Brook, a branch of Stony Brook, which will store two thousand million gallons of water. This, with Stony Brook, will furnish the city with an abundant supply for many years to come. Another large storage basin can be made at the head-waters of Stony Brook, when needed, including Beaver Pond, a location for a dam having been already secured and surveys made for another storage basin, plans of which are on file in the city engineer's office. The Water Board is also now building a high service distributing reservoir at Payson Park, with a capacity of forty million gallons, which will greatly increase the security against fires, and furnish head for buildings on the highest lands in Cambridge.

Before the city bought out the private companies, there was a difference of opinion among some of our best citizens as to whether it was best to buy, or not, some thinking that a department would be created in which jobs would be let out detrimental to the city, an enterprise which private effort had failed to make profitable, and that it would be likely to become a financial burden, if the city took it. Others thought differently, and could see no good reason why the water-works should not be managed on business principles and take care of themselves.

The city voted to buy out the private companies, and paid $291,400 (for which amount bonds were issued), at the same time agreeing that all extensions of the water-works should be provided for by bonds and surplus water rates, after paying current expenses. Interest on bonds, and what the law required for the sinking fund, was to be added to the sinking fund. In



CAMBRIDGE PUMPING ENGINE NO. 7.

order to determine which class of our citizens was right in their views about buying the water-works, it was provided by ordinance that the accounts of the water-works should be kept separate from the other departments of the city. At first an allowance was made to the water-works for water furnished the fire department, for watering streets, for all public buildings, and water fountains for horses, etc.; but several years since, the ordinance on these matters was repealed. Since that time nothing has been allowed the water-works for any used in the city for fire and other public purposes, as is the custom almost everywhere else.

Now let us look at the financial standing after thirty and one half years' experience up to November 30, 1895.

Amount of bonds issued for original purchase		$291,400.00
Bonds issued since for extension account		3,543,500.00
Making the total amount of bonds issued		$3,834,900.00
Amount of bonds paid from sinking fund .	$1,619,400.00	
Value of sinking fund November 30, 1893, as per the trustee account	546,049.24	$2,165,449.24
Leaving bonds yet outstanding to be provided for by the sinking fund and representing the net cost of the water-works, November 30, 1895		$1,669,450.76

The sinking fund will be ample to provide for all outstanding bonds as fast as they fall due.

We feel somewhat proud of our financial showing, especially when we know that our people have been supplied at lower rates than others, though all the water is pumped, and all departments of the city have been furnished with water free for many years. Nothing is put into the tax levy from year to year to swell the income, or to make up deficiencies in the water department, as is done in some other places.

In connection with the financial history of the water-works there are some other points that should be mentioned, in which it has been a help to the tax-payers in other city departments.

1. In 1876, there were hard times, and many were out of work in the city, their families being in want. The city council passed an order appropriating $26,000 for relief, and directed the Water Board to spend it as best they could, paying the men one dollar per day, and settling every night. The Board was

obliged to spend $28,000 more to create the work called for, and the work thus done proved of little or no value to the water-works, but $54,000 was contributed to help the poor of the city. Upon this sum the water-works has been paying interest for the past eighteen years, at six per cent. per annum.

2. Concord Avenue had been in a most deplorable condition for several years. The city had bought thirteen and one half acres of land in Belmont near Fresh Pond, that it was desirable to annex to Cambridge. Huron Street (now Huron Avenue) had been laid out seventy feet wide from Concord Avenue to the Watertown Branch of the Fitchburg Railroad. It was desirable that this should be continued to Cushing Street, which would give an avenue surrounding all the land of the city bordering on Fresh Pond, which was fast assuming the appearance of a fine water park. An act was secured from the legislature giving the city the right "to lay out, construct, and maintain Cushing, Grove, Washington, and Adams streets, and Concord Avenue, from Adams Street to Fresh Pond Avenue, and for laying out, grading, embellishing, and maintaining the grounds around Fresh Pond, and pay for the same out of the surplus water rates, after paying all interest on bonds, current expenses, and providing for the sinking fund, three per cent. as required by law."

3. Under this authority the Street Department put Concord Turnpike in good repair in 1891, at an expense of $12,400. In 1892, the Street Department widened Adams, Washington, Grove, and Cushing streets, and put them in good order, at an expense of $10,000. In 1893, two iron bridges were built on Huron Street extension, and the work of grading and making the street from the railroad to Cushing Street has been done, or is nearly completed, by the Street Department, at an expense of $27,022. Besides this, the Street Department has taken many thousand loads of gravel from land bought by the Water Board, paid for in the water bonds, upon the cost of which we are still paying the interest, but for which no allowance has been made to the Water Department.

4. The making of Lake View Avenue from Concord Avenue, Fresh Pond Avenue, to the railroad station and pumping engine house, and filling and grading Worthington Street at an expense of about $50,000, was also paid for by the Water Department.

Now let us summarize these things, say: —

Amount expended to help the city poor	$54,000.00
Amount expended in constructing Lake View Avenue with sewer in same, etc.	47,985.32
Amount expended in repairing Concord Avenue	12,400.00
Amount expended in widening Adams, Grove, and Cushing streets	10,000.00
Amount expended on Cushing, Huron Street, and two bridges	27,022,00
Making the total amount of	$151,407.32

representing some of the direct benefits rendered the city and paid for by the water-works in money procured by sale of water bonds, not counting the gravel taken. These statements are made to show what has been, in brief, the history, and to show the value of the water-works to the city of Cambridge, besides furnishing water for the citizens. To the credit of the city council it should be said that it has uniformly granted the needed appropriations asked for by the Water Board, and that without its hearty coöperation nothing could have been done, for the Water Board could spend no money until it had obtained authority from the city council.

I have thus endeavored to set forth a few of the salient points in the history of our water-works. I have never before had a chance to inform so many on this subject, and never expect another such opportunity.

Fresh Pond was ceded to the city of Cambridge by the Commonwealth for a reservoir in 1888, with power to take all the land and buildings around the pond for the purpose of preserving the purity of the water. Under this act the city has taken about 170 acres, and removed all buildings therefrom. The pond contains 160 acres, and a fine driveway has been constructed all around its borders, nearly three miles long. With the water area and land taken, this makes a fine water park of 330 acres. The surroundings of the park are being graded and laid out in an artistic way, beautifying the whole region and making it one of the most attractive places in the suburbs of Boston.

It will thus be seen that in an abundant supply of excellent water, not surpassed by that of any town or city in the Commonwealth, and equaled by few, Cambridge presents one of the strongest inducements, with her "No License" record, for any who may be looking for a home where good water and good

morals prevail, while at the same time manufacturers will find it for their interest to locate here where the land is reasonable, and moderate in price, the water rates low, and the facilities for doing business excellent.

The water-works have, since the city purchased them, been managed by a Water Board, composed at first of the mayor (who then presided over the board of aldermen), and president of the common council *ex officio*, and five citizens, chosen one from each ward. Since the revised charter was adopted, the Water Board consists of the five citizens only, who have always served the city with no compensation, except the consciousness of serving the public in one of its most important departments.

EDITOR'S NOTE. — The above account of the water system of Cambridge cannot be considered complete without the additional statement that Mr. Kingsley was himself a member of the Water Board from 1865 to 1894, and that for fourteen years of that time he served as its president.

CAMBRIDGE PARKS.

By HENRY D. YERXA,

PRESIDENT OF THE PARK COMMISSION.

THIS year we celebrate the anniversary of the incorporation of Cambridge as a city; we consider what Cambridge is, what Cambridge shall be. In the strength of the intellectual life of the seat of Harvard University we have great faith. We believe, too, that the political life of our city stands as an example of the success of a steady struggle for good government. If such be the truth, is it not worth our while to dwell for a time upon the outward form of our city, to learn what can be done to make Cambridge a fitting home for the life toward which many men look as toward that which is strong and good in our civilization?

Only after a city reaches that stage of existence when some parts at least have become crowded, does the realization of the need for open spaces make itself convincingly apparent. Indeed, it is only in the great European cities that we find the ideal development of lands given over to the use of the people, — in such vast centres as Paris, Berlin, Hamburg, and London. Elizur Wright has even said, in a description of London's magnificent parks, "London would go crazy without them." That Cambridge itself is becoming crowded is proved by the fact that an entire ward might be laid out with a population of one hundred people to the acre, while smaller districts are still more densely populated. Such being the condition, we cannot but ask ourselves what efforts we have made to give to every man, especially to those who are living under the least favorable circumstances, opportunity to breathe pure air in the midst of natural beauty, a privilege which should become the birthright of every dweller in an American city.

It was not until 1892 that any special exertion was made to enlarge the public grounds. In that year, a committee of five

was appointed by the late Hon. Alpheus B. Alger, then mayor, to consider the subject of parks. To General Hincks, the chairman, a strong man, eager always for the welfare of Cambridge, and especially earnest in his desire to take advantage of the possibilities of the city in this respect, thankfulness for our awakening to the needs of Cambridge along present park lines is largely due. In November of 1892, the report of the committee was rendered, and it showed how easily we had let the years slip by, and with how little we had been satisfied. In Ward One, we had Cambridge Common, Winthrop Square, Arsenal Square; in Ward Two, Broadway Common; in Ward Three, no open spaces; in Ward Four, Washington Square, Hastings Square, and River Street Square; in Ward Five, again, there was no open space. Fresh Pond Park, begun by the wise foresight of Chester W. Kingsley and his fellow-workers on the Water Board, had already been somewhat developed, and the esplanade of the Charles River Embankment Company, near Harvard Bridge, was in process of construction.

The inadequacy of these grounds was most evident. East Cambridge, for instance, with its fifty-five people to each inhabited acre, had not a single breathing-space. Consequently, so strongly was the need of persistent and lasting effort for the development of the park system felt by the city government, urged by Mayor Bancroft in his inaugural address, that in August of the following year, 1893, Rev. John O'Brien, George Howland Cox, and Henry D. Yerxa were appointed park commissioners, and since that time they have labored diligently to make Cambridge what all wish the city to be. Of course, the commission has been obliged to struggle with the difficulties of a city well on the road to a permanent form, not with the easier problem of laying out grounds with freedom of choice, as had been, of late, possible in some of our Western towns, organized by men from older cities, — men wise enough to see what the future bore in her hands. Yet, notwithstanding the difficulty, all have been ready to employ their wisest thought in building the earthworks of Cambridge. They have realized the permanency of the result of such endeavors; that parks will not wear out, that though bridges, public buildings, water-works, sewers, and pavements must be replaced, "earth work," as President Eliot has well said, "is the most permanent of all the works of men." They have known what breathing-space means to the

PARK SHELTER, CAMBRIDGE FIELD.

people, to hard-working men, to weary mothers, to little children. They have not forgotten what Rev. D. N. Beach, whose loss as a citizen of Cambridge we so deeply regret, would call the transcendental aspects of the park system. Neither have they lost sight of the fact that parks are a good municipal investment for Cambridge. They have remembered that Baltimore, that Buffalo, that Boston, have all been able to show that their great parks, through the increased valuation of the surrounding territory, have already begun to pay for themselves. Though the sum to be expended by Cambridge during the next fifteen years will probably be about $2,000,000, they feel sure that, in time, through financial returns alone, the city will be the gainer from this improvement.

From the report of 1892 it was easy to see where work was most urgently needed. That our present public grounds, planned in days when few in this country realized as many do to-day what parks may be, needed much improvement was perfectly plain to all, and instead of a barren space of ground, hardly more than a trodden desert, ornamented with a flagpole and a few trees planted with little consideration of the whole effect, we are to have, under the wise direction of the noted landscape architects, Olmsted, Olmsted & Eliot, plots which shall be, for all, true retreats from the busy hum of city life. On Broadway Common this process of change may first be watched.

Of this proposed improvement Olmsted, Olmsted & Eliot say: "This small public ground contains two and six tenths acres. At the present time it is so cut up by cross-paths that its appearance is ruined. Neither is its present arrangement well adapted to serve the comfort of the women, children, and babies who frequent the place in summer." The plan provides convenient diagonal paths, while it preserves a considerable breadth of central lawn. For the children it suggests a gravel playing-space 150 feet long, placed near the Broadway boundary, so that a sunny exposure may be had. Seats placed here under a vineclad arbor will command the playground and the lawn, while the arbor and a dense shrubbery behind it will afford some shelter from north winds.

The want for additional public grounds was seen to be most urgent in Ward Two, Ward Three, and also in Ward Five, in which, though the population is scattered as a whole, there is a crowded locality.

After much deliberation, for the relief of East Cambridge it was decided to centre all effort in the development of the river front, not only because desirable land was unattainable elsewhere, but because the opportunity of enjoying the river could then be given to the inhabitants of the most crowded portion of our city, into which residents are continually coming from Boston, and where, without doubt, the history of the larger city in its successive stages is to be repeated. This stretch of water front lies between the West Boston and the Craigie bridges, opposite the Charlesbank, and occupies about one half the distance from bridge to bridge. The sea-wall is already constructed. Filling is in process. In time, this East Cambridge embankment will be to Cambridge what the Charlesbank is to Boston; and that the Charlesbank is of service to Boston no one can doubt who considers that the attendance, during last summer, was somewhat over 1,000,000; that on summer nights it was not unusual to find as many as 10,000 people assembled there.

In Ward Two, a tract of twelve acres off Cambridge Street, to be known as Cambridge Field, has been set aside as a permanent open space. Sodding has been done; nearly all the shrubbery plantations are finished; all the trees are planted. Until the weather became too cold, the portions of the field which are finished made a popular resort. During the summer evenings and Sundays the walks have been crowded. Since cold weather set in, whenever practicable, the field has been flooded for skating. It is in this Cambridge Field that our citizens are for the first time to see a reservation of land improved from its very beginning, as the modern investigation of municipal needs has made possible, improved so as best to meet the needs of those people in the midst of whom the land lies. In no case is the satisfaction of the desire for beauty neglected, but, in addition to this, the lands have been so laid out that Cambridge Field will furnish a sporting-ground in both winter and summer for boys and men; an outdoor gymnasium for girls; a sand-court, where small children shall be allowed to play; and, most important of all, a central building. This central building or shelter is to serve as a meeting-place, and a refuge in case of sudden showers. In it will be a check-room for clothing, bats, balls, skates, and other articles. Light refreshments, such as milk, beef-tea, coffee, and soda, will be

served. Here will be the necessary closets and wash-rooms. To this building, also, will be joined a band stand. Thus, when Cambridge Field is completed, we shall have one more illustration of what seems to me a growing tendency in our local governments, the union of all for the good of all.

In Ward Five, next to the Wyman School, Rindge Field has been the land selected for park purposes. Thus far, the field has been utilized as a playground, while a portion has been reserved as a nursery for shrubs and trees sufficient to supply the whole Cambridge system. How Rindge Field is to be developed is largely a question of the future.

If these were all the lands Cambridge saw fit to offer, Cambridge would be poor indeed. We have, however, in addition, the river front, the development of which is to be the most extensive work undertaken, and the work which will bring most glory to the city, in the progress of which we rejoice, especially in this anniversary year. From West Boston Bridge to the Cambridge Hospital, in days to come, a drive along the borders of our Charles will be possible. By the side of the river, known to the Indians of long ago as Quineboquin, the crooked, we shall have over four miles of parkway. Only when this undertaking is finished shall we feel that we are worthy of our heritage, that our ever-flowing, ever-abiding stream has received due honor.

Definite plans in regard to the treatment of the whole river bank have thus far been impossible. Two great obstacles have stood in the way, — lack of decision in regard to the permanent bridges, and delay in regard to the damming of the Charles, about which discussion has been warm. Nevertheless, Boston and Cambridge will soon decide on sites for bridges, and we look forward to the day when, if opposition, which depends largely upon a want of knowledge of facts and of the benefits to be conferred, cannot be overcome to such a degree that we may have a fresh-water basin, we shall, at least, have a dam across the Charles similar to that on the Thames above London, where the full incoming tide is allowed to sweep up the river, but on the ebb is kept back at half tide. Such a treatment would give us a salt-water basin of 646 acres between Craigie Bridge and the Cambridge Hospital. The best illustration of such a basin, as has again and again been pointed out, is the Alster at Hamburg. Picture to yourselves this sheet of water between Cambridge and Boston, never below half tide, with

drives on both banks. Consider how launches may run from city to city, how men may start after a long day's work from many points near Beacon Street and land in almost any part of Cambridge, having had this little breathing-space in the fresh air and among beautiful surroundings. By these pleasant means, too, they may be brought close to their homes; for by far the greater part of Cambridge lies within a mile of the river bank.

Two miles along the Cambridge side of the basin from Harvard Bridge will run a broad drive, with shady walks parallel to the shore, protected, if the salt-water basin be determined upon, by strong stone walls, rather than by the beaches and shrubs, which would be the only possibility if the basin were, as formerly proposed, a fresh-water park. Here and there between the trees those who walk will find resting-places, and, every now and then, a landing which will make short trips on the water tempting. At "Captain's Island," between Brookline and River streets, our open lands will broaden out into about thirty-eight acres, the largest park of the system. This reservation, nearly three times as large as all the public grounds in Cambridge previous to 1893, will be developed in much the same fashion as Cambridge Field. The island, though an island in name only, has the advantage of being close to the water, and it thus furnishes opportunity for boating, provisions for which will be furnished by the park department of the city. From River Street onwards, the drives and walks will occupy all the open space until near Boylston Street, a congested locality, where the reservation will again make it possible to offer more open spaces, and unusual conditions in the way of locations for boathouses, and for the encouragement of water sports.

Continuing along the river bank, we shall soon catch glimpses of the Blue Hills of Milton, and, across the Soldier's Field, of the nearer Brookline and Brighton hills. Places crowded with historic associations will come to view, — the Lowell Willows; across the Longfellow Garden, Craigie House; then Elmwood, Lowell's house, in the distance. Now we shall pass the spot where Professor Horsford firmly believed the Norsemen had landed. Soon we may turn in one direction and enter the Boston parks, or, in another, crossing Brattle Street and driving through what is now Fresh Pond Lane, reach our beautiful pond, set in the midst of surrounding hills, which Mr. Olmsted

has been free to call one of the finest natural features about Boston, a statement with which we, who know the spot, fully agree. In Fresh Pond Park, with its broad outlooks, improved as it will be by the able efforts of the Water Board, we have a goal where our drive may satisfactorily end. On that day in the future toward which we look when, in reality, we shall have taken this drive, we may perhaps call to mind Lowell's words: "I remembered people who must call upon the Berkshire hills to teach them what a painter autumn was, while close at hand, the Fresh Pond meadows made all oriels cheap with hues that showed as if a sunset cloud had been wrecked among the maples."

When all is done, the entrances to Cambridge will, at last, be beautiful. The city that holds within itself treasures with which few can be compared will have border lands worthy of its riches. On that day, when all our plans have been made good, we shall have an outward form more nearly fitting the best life of Cambridge; and those of us who work many a day over the problems which shall bring forth "Greater Cambridge" feel that the beauty of this outward form will help us all, the least and the greatest, to realize for Cambridge the best life we can conceive.

REAL-ESTATE INTERESTS OF CAMBRIDGE.

By LEANDER M. HANNUM.

If we recall the fact that soon after the first settlement of Cambridge, in the spring of 1631, it embraced a territory thirty-five miles in length, including the towns of Billerica, Bedford, Lexington, Arlington, Brighton, and Newton, we shall see that our area has greatly decreased, as the extreme length of our present territory is only four miles, and the total area about four thousand acres, in spite of the fact that by legislative acts of 1855 and 1880, portions of Watertown and Belmont were granted to Cambridge.

It exalts our estimate of the earlier commercial importance of our city when we read that by an act of Congress approved January 11, 1805, it was enacted that Cambridge should be a port of delivery, and subject to the same regulations as other ports of delivery in the United States. The custom-house was never built, yet under the stimulus given to real-estate interests by this act, large tracts of land on Broadway were sold with the condition inserted in the deed that no building of other material than brick or stone, or less than three stories in height, should ever be erected on them. Our present fire-limit ordinance, which applies only to our principal thoroughfares, is scarcely more severe. The condition has, however, been constantly violated, and but few buildings of the character named are found on the street after a period of nearly a century, during which our population has increased from two thousand to eighty-two thousand, and our valuation from less than two million dollars to more than eighty-two millions.

Notwithstanding this large gain, at no period of our city's history has her growth been phenomenal or exceptional. During the first two centuries after settlement this was especially true. For more than a century and a half, we learn from Paige's history, that part of the town lying eastwardly from

ADAMS S. HILL
MARGARET FULLER OSSOLI

Quincy and Bow streets, generally called "The Neck," consisted of woodland, pasturage, swamps, and salt marsh. To overcome the natural disadvantages of grade under which the city suffered, the filling of a large section was necessary, including the channels formerly constructed for the passage of vessels, leaving only for such purpose the so-called Broad Canal, which affords access to many coal and lumber yards. The several legislative acts were approved as follows: That relating to the Washington Street district in 1869, to the Franklin and Sparks Streets district in 1872, and to the Miller River district in 1873. Under the provisions of these acts much land was surrendered to the city by the owners, and was later sold at about thirty per cent of its cost.

In addition to the freight facilities afforded by the navigable river, the Boston and Albany and Boston and Maine railroads, in the easterly section, where are located the greater number of our large manufactories, and the Fitchburg railroad, in the westerly part, provide ample accommodation; yet it is hoped ere long that a central local freight station will be furnished by the former road, to add to the convenience of a rapidly increasing traffic. There has been much discussion as to whether the removal of this branch of the Boston and Albany would not on the whole result to the advantage of the city, and there is no doubt that if the removal could be limited to the section between Main Street and the Cottage Farm Station, great benefits would accrue to that most extensive unoccupied section of the city, to which the Harvard and Brookline bridges are immediately tributary.

The advantages as a place of residence of the large area lying between the Boston and Albany railroad and the Charles River, and separated from it only by a boulevard two hundred feet in width, are presented elsewhere in this volume. The erection of substantial and attractive dwelling-houses fronting this boulevard cannot long be delayed, as its southerly exposure, the firm foundation for building without piling, its convenience to Boston, and other advantages, cannot fail to induce many of her business men to locate here. The extensive development of the adjacent lands reaching northerly and westerly, with the park improvements on the shores of the Charles, and the extensive widening and improvement of streets connecting therewith, will certainly, within the next few years, work important

changes, all in the direction of valuable and substantial improvement.

In the mercantile houses of the city some recent improvement is noticeable. The exclusion of saloons from Cambridge nearly ten years since left vacant a large number of shops upon our principal thoroughfares, many of which had been cheaply constructed; and for the period of two or three years some of them were without tenants; but gradually business which is of value to the community has provided occupation for many, while others have been rebuilt and better adapted to the needs of trade.

The extension of Main Street (now called Massachusetts Avenue), through Front Street to the Harvard bridge, and the diversion of the larger part of the passenger travel over this route, has contributed to the centralization of trade, and the section of Main Street still retaining the name seems unlikely to present equal attractions for the more valuable store purposes. The business blocks recently built by F. A. Kennedy, A. P. Morse, G. K. Southwick, C. B. Moller, and H. Fitzgerald on Massachusetts Avenue are a credit to the city, and are doubtless only the forerunners of others of like character in this neighborhood.

In Harvard Square, another business centre, fewer recent improvements have been made, but the widening of Harvard Street at this point in 1894, and the further contemplated widening the present year between Dunster and Boylston Streets, — of the latter street its entire length, — will stimulate improvements in the business accommodations of this locality.

In no part of the city has more ample and excellent provision for existing needs of the mercantile interests been made than in North Cambridge above Porter's Station, where the Henderson, Odd Fellows, and other fine blocks have lately been built.

On Cambridge Street considerable improvement has taken place in the store properties within the past few years, and the large purchases of Middlesex County for a new Registry of Deeds building, together with the improvement of Binney fields for park purposes, render the street much more attractive, and increase the value of property on it.

The extensive area filled by the East Cambridge Land Company, which is made more accessible by the extension of First Street, has tempted many large manufactories to that region,

and there is still abundant room for many more. This territory is scarcely a mile from the northern depots of Boston, and the land is offered at moderate prices.

It is interesting to note some of the changes which, in the course of the growth of the city, have taken place. The rapid introduction of manufacturing establishments near the shores of the river, in the easterly part of the city, has multiplied the number of homes for the wage-earner, and very many of those whose residences were there, desiring to improve their surroundings, have removed, and a considerable population has settled west of Prospect Street, which forms the easterly boundary of one of the pleasantest residential sections in Cambridge.

Until very recently the height of the buildings in Cambridge has not exceeded four stories, and few have contained more than eight suites, yet two or more student dormitories built in 1895 exceed that height, and Ware Hall contains fifty-six suites of three rooms each, and one large six-story block of twelve suites of ten rooms each, with elevators, on Massachusetts Avenue, has just been completed. Next season, a six-story block of like character will be built on Massachusetts (formerly North) Avenue, which will provide for thirty-six families. If our present population were distributed throughout our city on the liberal scale which formerly prevailed, each family being allowed a yard for light, air, and children's playground, there would not be a single unoccupied lot in Cambridge, and therefore we must patiently view the introduction of the various forms of apartment houses which promote a form of living which has many disadvantages, yet offers compensation in economy of labor and money.

The extension of the West End Street Railway track through Concord and Huron Avenues, and the widening and extension of the latter avenue, have aided in the development of a large territory, much of which is at a considerable elevation, and overlooks Kingsley Park and Fresh Pond. A rapid growth in this section of our city may be predicted, as hundreds of acres of available land await and invite occupancy.

It is impossible to measure the increased value to the real estate interests of Cambridge made by the park improvements, near the shores of the Charles River, the reconstruction of the Boylston and Brookline bridges, and the building of a bridge at the foot of Magazine Street, authorized by recent enactment.

Few cities enjoy or have left so long unimproved such opportunities as the river shore affords for a delighful park and driveway, and the aroused public spirit, civic pride, and creative force of our citizens assure liberal expenditure and rapid progress in this important work. Real estate interests thrive in a thriving community, and nowhere are the evidences of thrift more abundant and conclusive than in Cambridge to-day, for the following reasons among others: Its remarkable healthfulness; its exceptional educational advantages; its superior residential attractions; its manufactories, their character and extent; its excellent municipal government; its pure and abundant water supply, furnished at low rates; its moderate and annually decreasing rate of taxation; its freedom from the saloon; its transit facilities throughout the city, and to and from all parts of Boston and adjoining towns; its ancient fame, historic associations and traditions; the moral standing and general intelligence of its citizens; the prevalence of "The Cambridge Idea," in municipal politics, which means the highest civic development; the strife for the ideal in municipal life. With such advantages, it is not surprising that the growth of the city is rapid, symmetrical, and healthful. No city offers greater inducements to the manufacturer. In the more desirable residential sections, both in the recently filled and newly developed lands near Harvard bridge, and other portions of Ward Four near the projected park and riverway, and on the higher grounds of Wards One, Two, and Five, are several hundred acres of land offering every advantage for occupancy, and providing thousands of the finest and most desirable building sites, with an infinite variety of choice, and well suited for the homes of all classes, however modest or luxurious their requirements. In no community is the hand of welcome more readily or warmly extended to the worthy stranger, or the invitation more heartily given to dwell with us, and share the privileges which we so much enjoy and so highly prize. At this anniversary period, the citizens of Cambridge review with satisfaction and pride the memorable events in her long and honorable career, and they look forward with confidence and anticipation to a future bright with promise.

THE HEALTH OF CAMBRIDGE.

By HENRY P. WALCOTT, M. D.,

CHAIRMAN OF THE MASSACHUSETTS BOARD OF HEALTH.

THE health of the city of Cambridge is not a matter of guess-work, but stands accurately recorded in the pages of the registration reports of the State and in the successive volumes of the Census of the United States.

Of the diseases which prevailed here before the first registration report in 1841, we know but little. When some disease broke out in the form of an epidemic — like smallpox, the dysentery, or malignant sore-throat, we find contemporary records perhaps of the numbers of those dying from these diseases, but more than this we cannot now ascertain.

The situation seems to have been always considered a healthful one, however, notwithstanding the large area of low-lying land in the town itself and in the surrounding country.

It would be supposed, probably, by most people, that the conditions of health in Cambridge and the neighboring city of Boston would be essentially the same, — the climate, the presence of large areas of flats exposed at low tide, the general character of the population, are apparently the same. Moreover, in Cambridge are also found large numbers of people living in tenement houses which are crowded and poorly provided with sanitary arrangements.

By the Eleventh Census Cambridge has a density of population represented by 18.77 persons to the acre; Boston, upon the same area, has only 18.51 persons. The most constant influence unfavorable to health is generally considered to lie in the density of population. Bearing this fact in mind, it is a pleasant surprise to find that Cambridge has better conditions for health than Boston has, notwithstanding the greater density of population in the former. In Cambridge 19.89 persons died out of every 1,000 in the course of the census year; in Boston

in the same year there died 24.79 out of every 1,000. That is to say, if Cambridge had been as unhealthy as Boston in this year, instead of losing by death 1,393 persons, there would have died 1,736. Even if nothing more than the money value of a man's life is to be considered in questions of the relative advantages of various cities as places of residence, these 343 lives represent a considerable advantage for the city of Cambridge. Especially when it is remembered that it has been found by experience to be true, that for every person that dies two other persons will be constantly sick throughout the year. It is a matter, therefore, of the greatest consequence that a city should be able to offer the best possible conditions of health, in order to attract new citizens.

The city has now a satisfactory system of sewerage — a water supply that is free from serious pollution, and a reasonable provision of open spaces, — a hospital for contagious diseases in connection with the Cambridge Hospital, and a Board of Health which has been in existence for nearly twenty years. Under all these favoring influences the city has made a record in healthfulness of which she may well feel proud, for she stood at the head of the list of thirty-one registration cities which were selected for comparison from the whole country in the Tenth Census of the United States. In that year there died in Cambridge only 17.46 persons for 1,000 living, — a rate not equaled by any city of 50,000 inhabitants in the country.

WASHINGTON AVENUE.

BURIAL-PLACES IN CAMBRIDGE.

By GEORGE S. SAUNDERS,

CHAIRMAN OF THE CAMBRIDGE CEMETERY COMMISSIONERS.

Go where the ancient pathway guides,
  See where our sires laid down
Their smiling babes, their cherished brides,
  The patriarchs of the town;
Hast thou a tear for buried love?
  A sigh for transient power?
All that a century left above,
  Go, — read it in an hour!

O. W. Holmes.

As early as 1634–35, one John Pratt was granted two acres of land, described as situated "By the old Burying Place without the common pales." This deed indicates the first land used for burials, which was located, as nearly as can be ascertained, on the northerly corner of the present Ash and Brattle streets, outside of the stockade which was erected in 1632. Rev. Abiel Holmes, D. D., wrote in the year 1800, "that £60 was levied 3d February, 1632, towards making a Palisado about the New Towne. This was actually made, and the fosse which was then dug is in some places visible to this day. It enclosed above one thousand acres." This in a measure protected the little town from Indians and wild beasts. This burial-place was discontinued when the present ancient ground on the corner of Massachusetts Avenue and Garden Street was set apart for burials, and ordered "paled in," early in 1635–36.

One hundred years later, 1735, the town, with the assistance of the college, built a substantial stone wall in the front, on "Menotomy Road,"[1] at a cost of £150. The College Records read: "Whereas there is a good stone wall erected round the Burying Place in Cambridge, and whereas there has been a regard to the College in building so good and handsome a wall

[1] Now Massachusetts Avenue.

in the front, and the College has used, and expects to make use of the Burying Place, as Providence gives occasion for it, therefore, Voted, that as soon as the said wall shall be completed, the Treasurer pay the sum of £25 to the Committee of the Town, Samuel Danforth, William Brattle, and Andrew Boardman, Esquires."

This wall was removed some forty years since, and a wooden fence built, which in turn was taken away, and in 1893 the present substantial iron fence erected on Massachusetts Avenue, Garden Street, and the northerly boundary. This "God's Acre," as it is often called, contains the dust of many of the most eminent persons in Massachusetts: the early ministers of the town, Shepard, Mitchel, Oakes, Appleton, Hilliard, and others; early presidents of Harvard College, Dunster, Chauncy, Willard; the first settlers and proprietors, Simon Stone, Deacon Gregory Stone, Roger Harlakenden, John Bridge, Stephen Daye, Elijah Corlett; and, later, the Lees, the Danas, Allstons, and Wares. It is much to be regretted that so many graves remain unmarked, and equally so that the names of tenants of many costly tombs are unknown by the very imperfect registration, or want of registration, in the town records. Some tombs of once prominent families, who have become extinct, were built on a level with the sod, and as no name or mark whatever is to be seen, are walked over unknown. Several of the substantial above-ground monuments had tablets inserted with names thereon, which have been broken out and lost, and only a blank aperture remains. This was caused largely by the scarcity of lead in the Revolution, when the lead in which the tablets were embedded was removed for bullet-making, at the same time that the old church building near by was desecrated. The Judge Trowbridge tomb, near the gateway, has been substantially indicated within a few years. Inclosed therein is the commingled dust of very eminent families for several generations. Near this is the prominent Vassall monument, with the figures of a vase and the sun, the armorial bearings of the family. Near by is the ancient mutilated milestone, first placed near the "Old Court House," in the present Harvard Square, in 1734, on which is cut "8 miles to Boston," the above date, and the initials "A. I.," of him who cut and first placed it. This directed travelers the way to Boston through Roxbury, over the only bridge that then crossed Charles River, to "Little

Cambridge," now Brighton. The above initials are explained on a headstone near by: "Here lyes buried the body of Mr. Abraham Ireland, who departed this life January 24th, 1753, in y^e^ 81st year of his age. Pray God to give grace — To fly to Christ — To prepare for Eternity."

In 1870, the city erected a simple but appropriate monument to mark the place of burial of a few of the Cambridge Minute-Men, killed April 19, 1775. On the occasion of its dedication, November 3, 1870, Rev. Dr. McKenzie delivered a very interesting and suggestive address. He said most eloquently that it was pleasant for us to remember that our domain was wider then than now, and with a worthy pride we claim the glory of Menotomy for the praise of Cambridge. Arlington may guard their dust, Cambridge will overleap the narrow brook and claim them for her own, and let the 19th of April, 1775, hereafter be known, as it always should have been, as the day of the battle of Lexington, Concord, and Cambridge. More men were killed and wounded within the then limits of Cambridge than in all the other towns. With the names on the monument Dr. McKenzie also suggested adding the prophetic vision of Samuel Adams, "Oh! what a glorious morning is this!" The full inscription is:

ERECTED BY THE CITY, A. D. 1870
TO THE MEMORY OF
JOHN HICKS, — WILLIAM MÁRCY, — MOSES RICHARDSON,
BURIED HERE.
JASON RUSSELL, — JABEZ WYMAN, — JASON WINSHIP,
BURIED IN MENOTOMY.
MEN OF CAMBRIDGE,
WHO FELL IN DEFENCE OF THE LIBERTY OF THE PEOPLE,
APRIL 19TH, 1775.
OH! WHAT A GLORIOUS MORNING IS THIS!

In searching in 1870, to find the place of burial preparatory to erecting this monument, excavations were made along the northerly line of the grounds, and several skulls were found with bullet holes, showing where some of our killed at Bunker Hill were buried; but the grave of Colonel Thomas Gardner, a prominent citizen of Cambridge, a member of the Congress at Watertown with General Joseph Warren, is unknown. He was mortally wounded at Bunker Hill. The first official order of General Washington here, July 4, 1775, was for full military honors at his funeral that day. Near this locality is the grave

of John Hughes, a young man who died and was buried among strangers. The inscription on the headstone reads: "Beneath this tomb rests the remains of Mr. John Hughes, of Norwich in Connecticut. He died in his country's cause, July y^e^ 25th, A. D. 1775, in y^e^ 21st year of his age.

READER,
DEATH IS A DEBT TO NATURE DUE;
AS I HAVE PAID IT, SO MUST YOU."

Another has a similar inscription to John Stearns, died August 22, 1775, aged 23 years. The "mound," on the Garden Street side, incloses tombs of once prominent families, that of Deacon Gideon Frost, Deacon Josiah Moore, Major Jonas Wyeth, and probably of Israel Porter, of the Blue Anchor Hostelry. Opposite, in the centre of the grounds, is the most prominent tomb, with this inscription, and many more lines of obituary: —

IN THIS TOMB ARE DEPOSITED THE REMAINS OF
THOMAS LEE, ESQUIRE,
A NATIVE OF GREAT BRITAIN,
BUT FOR MANY YEARS A CITIZEN OF AMERICA.
DEATH RELEASED HIM FROM HIS SUFFERINGS MAY 26TH, 1797,
IN THE 60TH YEAR OF HIS AGE.

Near the front boundary is a brick monument, covered with a massive stone block, on which is cut: —

HERE LYETH INTERRED YE BODY OF
MAJOR-GENERAL GOOKIN,
AGED 75 YEARS,
WHO DEPARTED THIS LIFE YE 19TH OF MARCH, 1686-7.

The tomb probably contains the remains of his family, including his son, the Rev. Nathaniel Gookin. General Gookin was an influential man in the early days of the colony.

Near this are the tombs of Governor Belcher, Dr. Gamage, the Watsons, and the Munroes, level with the sod and unmarked.

In the year 1845, Mr. William Thaddeus Harris published a very useful book of epitaphs from this old ground, "from the earliest date to the year 1800." In the years succeeding 1800, with a few exceptions, the names only, on the monuments erected since that date, are given. Therefore it is hoped that

some modern Old Mortality, with the records of the first proprietors and the town, together with the needed tools of his profession in hand, will yet be commissioned to scan every stone, monument, and all records, for the names of those resting in this consecrated ground of the Fathers. We certainly owe this, ere it is too late, to those who shall come after us.

The city of Cambridge should add an honor to its semi-centennial this year by erecting a simple monument or tablet near that of Jonathan Mitchel, in commemoration of Rev. Thomas Shepard, who died August 25, 1649. He made it possible for Cambridge to be honorably known everywhere as the "University City." An eye-witness and historian of his time says, "To make the whole world understand that spiritual learning was the thing they chiefly desired, to sanctify the other, and make the whole lump holy, and that learning, being set upon its right object, might not contend for error instead of truth, *they chose this Place*, being then under the orthodox and soul-flourishing Ministry of Mr. Thomas Shepheard."

In 1885 the City Council placed this ancient burial-ground in charge of the Board of Cemetery Commissioners. By their direction it was thoroughly renovated, ornamental trees and shrubs were planted, the gravestones were righted and otherwise put in a condition suitably becoming the resting-place of so many of our honored dead.

About the year 1811, with the continued growth of East Cambridge and Cambridgeport, the old ground had become crowded, and "more than once" entirely filled; then an urgent call was made for another burial-place. Two and one fourth acres of ground were purchased on Broadway, at the corner of Norfolk Street. This was used nearly a half century, mostly by the inhabitants of those sections of the town, until the year 1854, when the present cemetery on Coolidge Avenue was laid out under the direction of a committee appointed by the city government.

The services of consecration were held on the premises November 1, 1854, and this beautiful spot was sacredly set apart for its new purpose. Remarks on the occasion were made by Hon. Abraham Edwards, then mayor, and the consecration address was given by Rev. John A. Albro, D. D., who aptly said in reference to the place: "Its locality, — its natural features, — its seclusion from the great thoroughfares of life, make

it a spot preëminently adapted to the end for which it has been chosen. Within these grounds, and not far from where we are now standing, the first Christian proprietor of this soil, Simon Stone, a companion in faith and tribulation of our Shepard, and one of the noble band of Puritans, who first established the Church of God in this Town, built his dwelling, and planted trees which yet bear their fruit." The original purchase contained about twenty-five acres. Since then additions of land have been made on the northern boundary, and by the further purchase of the Winchester estate on the south, so that to-day the whole area is more than sixty acres.

The Broadway ground was disused in 1865, by authority from the General Court, April 29th of that year, as follows: "*Resolved*, That the City Council of the City of Cambridge is hereby authorized, at the expense of the city, to remove the remains of the dead from the burial-ground between Broadway and Harvard Street in Ward number Two in said Cambridge, to the Cambridge cemetery, or such other burial-place in the vicinity of Cambridge as the relatives and friends of the deceased may designate and provide. Said ground shall be surrounded by suitable enclosures, and shall forever remain unused for a public street, unoccupied by any building, and kept open as a public park."

This was faithfully carried out by the city council of 1868. Suitable walks were made, and ornamental trees, shrubbery, etc., planted, thus making of the old burial-place a pleasant, rural, public park.

The care of the cemetery is under the charge of six commissioners, appointed by the mayor, and confirmed by the board of aldermen, their terms of office being for three years. In 1868 a substantial ornamental stone building was erected, suited to the needs of the cemetery, with rooms for the superintendent and his assistants, and for funeral services.

Twenty-five years ago a liberal area of ground was set apart as a burial-place for soldiers and sailors of the Grand Army of the Republic. This was decorated with a group of cannon, etc., given for the purpose by the United States Government. One hundred and twenty-four interments have been made, and the lot is now filled. Recently, another lot near the entrance way has been set apart for a similar purpose, making provision for two hundred and twenty burials. The number of interments,

including the removals from the Broadway ground, since its consecration in 1854, have been twenty thousand one hundred and twenty-five.

In 1892 an iron fence was constructed on Coolidge Avenue, together with a neat, substantial iron and stone gateway, in place of the original one of wood, built in 1854.

By a wise foresight, a generation or more ago, this beautiful spot was selected as a place of burial. Through the liberal appropriations of the several city councils, it has been enlarged on either side, and with the faithful, judicious oversight of those intrusted with its care, this "City of the Dead" has reached its present attractive and satisfactory condition, sacred by many precious, holy associations, and hallowed as the resting-place of the honored and beloved who have passed from our sight.[1]

The picturesque grounds of Mount Auburn Cemetery are situated on the westerly boundary line of Cambridge. In the early settlement of the town, the tract was known as "Stone's Woods," being the northerly part of Simon Stone's farming lands, which were bounded on the south by Charles River. The woods were later known as Sweet Auburn, and were the property of the Massachusetts Horticultural Society. In June, 1831, this society, by an act of the legislature, was authorized to appropriate any part of its real estate for a rural cemetery or burial-ground. The design for such a cemetery had long been considered with approbation, and the favored opportunity of securing Sweet Auburn for the purpose was at once earnestly attempted. This tract is undulating, and contains bold eminences and attractive dales. The highest ground is one hundred and twenty-five feet above Charles River, and on it stands a stone tower sixty feet high. From the tower the "winding Charles," in all its beauty, can be seen in one direction; the city of Boston, and the Blue Hills of Milton are in the distance; Cambridge is near by, with the venerable and modern buildings of Harvard University; and in another direction is Fresh Pond, the source of our city's supply of water, surrounded by its woody, irregular shores and grand avenues for pleasure-driving.

The first committee for the cemetery was composed of influ-

[1] I am indebted to Mr. William A. Saunders, a member of the first Board of Cemetery Commissioners, for many historical incidents and suggestions as herein set forth.

ential men, the late Judge Story being chairman. It met August 3, 1831, and received a very encouraging report. August 8th, another committee was selected to procure a survey, and a plan for laying out lots. This survey was by Alexander Wadsworth, civil engineer.

The consecration of the cemetery occurred on Saturday, September 24, 1831, the late Judge Story delivering the address, in "Consecration" Dell, as it has since been called. An audience of two thousand persons, seated in a temporary amphitheatre among the trees, added a scene of picturesque beauty to the impressive solemnity of the occasion.

In the year 1835 the legislature incorporated the proprietors as the "Mount Auburn Corporation." The first purchase of land contained seventy-two acres; the present area is one hundred and thirty-six acres.

The first recorded burial is that of a child of James Boyd, of Roxbury, July 6, 1832, on Mountain Avenue; the second, that of Mrs. Hastings, July 12, 1832, on the same avenue.

On elevated ground, not far distant from the gateway, stands a chapel made of granite, of Gothic design. Within are marble statues, in a sitting position, of the late Judge Story, and of John Winthrop, the first governor of Massachusetts. Two others standing, of John Adams, the second president of the United States, and James Otis, the patriot. The Sphinx, the Egyptian symbol of might and intelligence, was erected in 1872, and fronts the chapel. It is a massive monument, recalling our civil war by its inscription, —

AMERICAN UNION PRESERVED
AMERICAN SLAVERY DESTROYED
BY THE UPRISING OF A GREAT PEOPLE
BY THE BLOOD OF FALLEN HEROES

The gateway to the cemetery is built of Quincy granite, the design being taken from the entrance to an Egyptian temple. It bears the following in bold raised letters: —

"Then shall the Dust return to the Earth as it was; and the Spirit shall return unto God who gave it."

Near this, at the entrance of a high natural ridge, with a level surface, running through the grounds, called "Indian Ridge," is the sarcophagus of Gaspar Spurzheim, the celebrated phrenologist; he died in 1832. Farther on is that of the poet Longfellow, who died in 1882.

On Central Avenue, near the gateway, is the bronze statue, sitting, of Dr. Nathaniel Bowditch.

On High Cedar Hill stands a beautiful marble temple; beneath which rest the remains of Hon. Samuel Appleton.

Others eminent in public life rest here in this sacred soil: —

Charles Sumner.
Louis Agassiz.
President C. C. Felton.
Gov. Edward Everett.
Gov. Emory Washburn.
Anson Burlingame.
President Josiah Quincy.
John G. Palfrey.
President Sparks.
Robert C. Winthrop.
Rufus Choate.
Rev. Wm. Ellery Channing.
Edwin Booth.
Charlotte Cushman.
Joseph E. Worcester.
Bishop Phillips Brooks.
James Russell Lowell.
Rev. A. Holmes, D. D.
Oliver Wendell Holmes.

On Gentian Path is a beautiful granite obelisk, erected by Thomas Dowse, on which is inscribed —

TO THE MEMORY OF
BENJAMIN FRANKLIN, THE PRINTER,
THE PHILOSOPHER,
THE STATESMAN,
THE PATRIOT,
WHO BY HIS WISDOM BLESSED HIS COUNTRY, AND HIS AGE,
AND BEQUEATHED TO THE WORLD AN ILLUSTRIOUS
EXAMPLE OF INDUSTRY, INTEGRITY,
AND SELF-CULTURE.
BORN IN BOSTON, MDCCVI.,
DIED IN PHILADELPHIA, MDCCXC.

The number of interments to January 1, 1896, is 30,861.

Mount Auburn's greatest interest is in the fact that within this beautiful "City of the Dead" are gathered together those whose lives and characters are illustrious in the history of the country, and whose names are symbols of great achievements.

The sixty-fourth annual report, January 1, 1896, shows its solid financial success. The several funds in care of the corporation amount to the sum of $1,342,582, which began with the original purchase of 72 acres of ground, at a cost of $6,000.

Outside of the cemetery grounds, the corporation owns some fifteen acres of land, a part adjoining the cemetery, on which are situated greenhouses of the latest model, a liberal homestead for the superintendent, and other buildings, stables, etc.

HARVARD UNIVERSITY

IN ITS RELATIONS TO THE CITY OF CAMBRIDGE.

BY CHARLES WILLIAM ELIOT, LL. D., PRESIDENT.

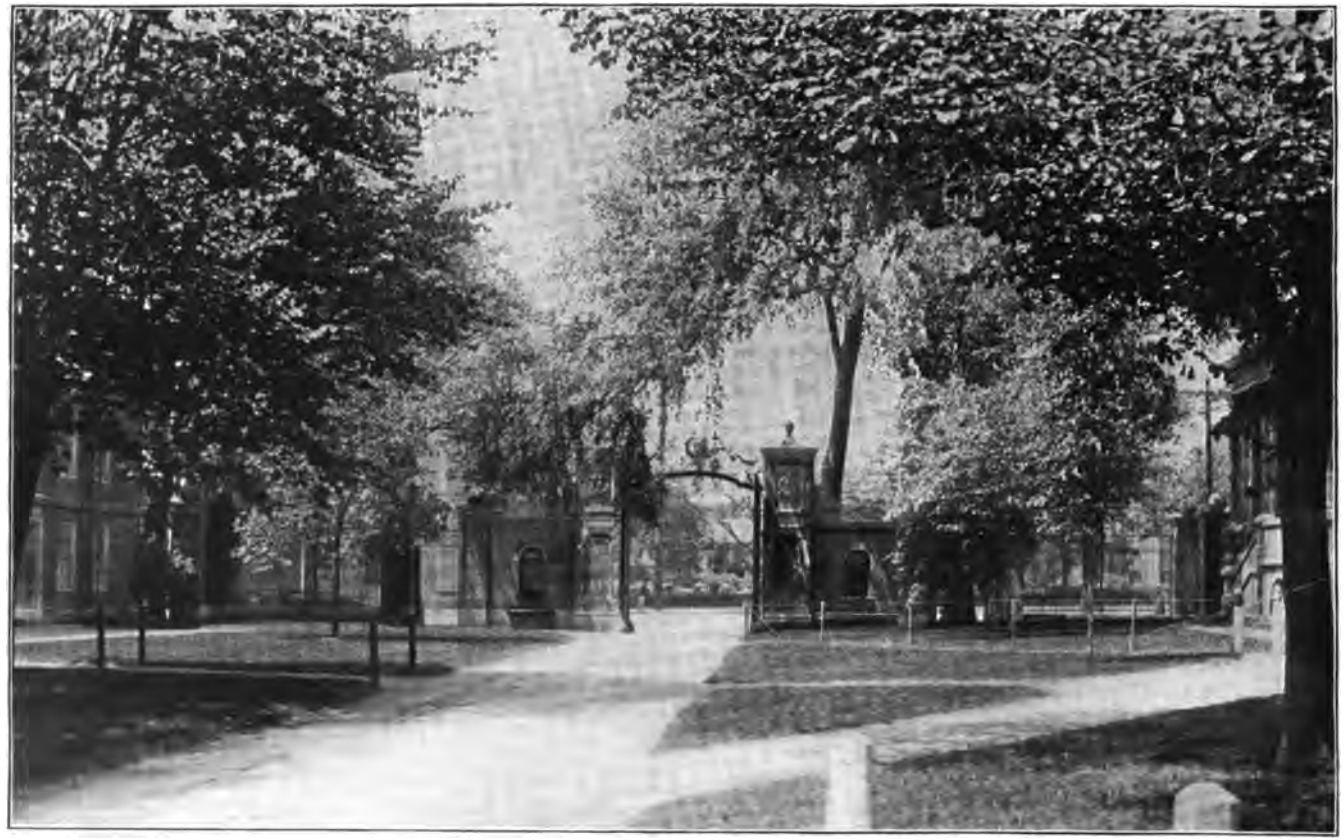
THE President and Fellows of Harvard College own at present (April, 1896) $82\frac{364}{1000}$ acres of land within the limits of the city of Cambridge, the total present area of the city, according to Paige, the historian of Cambridge, being about four and one-half square miles (2880 acres). The land now held by the President and Fellows has been acquired as a result of 107 separate negotiations, extending from 1638 to the present day. The following table shows the nature of these transactions; but in this table no account is made of transactions which did not relate to land now in possession of the university: —

54 separate purchases.
7 separate re-purchases of land previously sold by the University.
8 separate devises and gifts.
1 gift or purchase (Bradish lot on Holyoke Street, — mode of acquisition uncertain).
25 separate sales.
4 separate sales of land, the whole or part of which was afterward bought back.
7 or more contributions, or takings by the town or city, for laying out or widening streets.
1 taking by the city for park purposes.

107 transactions.

Of this area of $82\frac{364}{1000}$ acres, the town gave $3\frac{19}{24}$ acres. The rest of the area is the result of purchases, devises, and other gifts, offset in some measure by sales, contributions from college land to streets, and takings by the town or city.

The College Yard — as the inclosure between Massachusetts Avenue and Broadway, Peabody Street and Quincy Street is called — was acquired in twelve parcels in the course of two



THE HARVARD GATEWAY.

centuries, that is, between 1638 and 1835. The delta on which Memorial Hall stands was bought in two parcels between 1786 and 1816, one of these parcels having been procured in one of the College Yard transactions. After these purchases were made, Cambridge Street and Broadway were laid out through them. The land north of Cambridge Street and south of Everett Street was bought in thirteen parcels between 1816 and 1839. Before many years had elapsed, considerable portions of this land were sold; and there have been seven re-purchases of parts of the parcels thus sold. In this region the President and Fellows once owned more than twice the area which they now own; but the sales made by the college were nevertheless judicious; for land within this region has been repeatedly bought back at prices less than those for which it was sold by the college with compound interest at five per cent. computed thereon. Of the land procured for the Botanic Garden in 1818, nearly all still remains in the possession of the college, the missing area having been taken for widening streets. Across Garden Street from the Botanic Garden more than 600,000 feet of land were bought between 1841 and 1886 for the purposes of the Observatory; but nearly one half of that area was subsequently sold. The land on which College House now stands was acquired in six parcels between 1772 and 1806, one parcel having been devised by Judge Lee, and the others having been bought.

The acquisition of land by the President and Fellows has been going on gradually all through the existence of the institution, but with different degrees of activity. The first lands acquired were the western part of the College Yard and the lots near Holyoke and Dunster streets. The enlargement of the College Yard to the eastward was the next object; and then came the extensions to the north, namely, the Memorial Hall delta, the Old Gymnasium delta, and the purchases north of Kirkland Street. The Observatory lands were acquired later still, while Holmes Field and Jarvis Field were not purchased till after the Civil War. The university now owns land enough in Cambridge to make it certain that the setting of the university buildings will be an open one for many generations to come; or, in other words, it will not be necessary that the university buildings should stand close upon the streets as houses stand in the densely built quarters of a city. They will continue to be surrounded by grass and trees, even though the

number of students in Cambridge should be multiplied by three, four, or five in the centuries to come. This determination of the character of the university grounds is important to the city; for the city has much to gain from the continued openness of the university grounds. The denser the population of Cambridge becomes, the more valuable to it will be the open spaces round the university buildings, particularly as it is beyond doubt that these open areas will as time goes on be kept in a more and more decorative condition. Great improvement in this respect has been made during the last twenty-five years. In 1869 there was a shabby board fence along the southern side of the College Yard almost all the way from Quincy Street to Wadsworth House; and up to that time it had not been the custom to keep the College Yard in a neat and pleasing condition.

There was a time when reservations for schools and colleges, churches and hospitals, were regarded with disfavor by some of the residents of Massachusetts towns and cities. They were held to be withdrawn from ordinary uses for residence or business, and therefore to be a burden on the city or town; but the recent almost unanimous movement of the population of eastern Massachusetts in favor of large reservations for park purposes and for boulevards, and the almost universal regret that our public schoolhouses are not surrounded by suitable play-grounds, have opened the public mind to the perception of the general fact that a dense population absolutely needs numerous reservations in order to secure for itself a reasonably healthy and pleasurable existence. It needs open spaces for grass, trees, and flowers; and for purposes of enjoyment it should live in daily sight of interesting and uplifting institutions, suitably equipped with buildings and grounds. The proved commercial advantages of wide avenues have also taught the people that large areas can profitably be reserved from the ordinary uses of residence or business. Severe experience has taught the urban populations of Massachusetts that it is of little use to erect fine buildings, unless they can be placed on fine sites. If a city hall of noble aspect is built on a narrow street, from which no one can survey its just proportions and elegant decoration, if a court-house is erected in a kind of pocket, so small that its façade cannot be seen as a whole from any single point except one too close for a general

view, the money expended on these structures, so far as the enjoyment of the passer-by goes, is in large degree wasted. They may be convenient for the uses of the people who repair to their interiors; but they cannot afford to the citizens of the place the satisfaction which comes from the unobstructed contemplation of noble buildings. Cambridge is old enough to have escaped the tiresome and wasteful laying-out in squares which deprives most American cities of fine sites for large buildings. It has many curving roads and irregular corner pieces, on which handsome buildings can be suitably disposed and displayed; but as time goes on, it will have great reason to be thankful for the continuing openness of the eighty-two acres which belong to Harvard University.

The population of Cambridge is considerably enlarged by the presence of the university. About three thousand students, out of the thirty-six hundred now in the university, live in Cambridge. In the long vacation nearly six hundred other students come for the numerous summer courses. More than one hundred of the teachers and other officers of the university occupy houses in Cambridge and maintain households therein. There are from one hundred and seventy-five to two hundred unmarried officers who live in or near the university. On the Catalogue of the year 1895–96, two hundred and fifty students give Cambridge as their home address. Every year a considerable number of families move to Cambridge in order to educate their children at the university. Many families that originally came to Cambridge, either to educate their children, or because the bread-winner became a university teacher, have remained in Cambridge. Some of the most famous houses in Cambridge to-day are houses built for or occupied by professors of a former generation. It is enough to mention the Norton, Palfrey, Agassiz, Longfellow, and Lowell houses. Some of the largest taxable properties in the city are to-day taxed here, because the university either brought to Cambridge, or kept in Cambridge, the creators or inheritors of these properties. Because of the presence of the university, Old Cambridge has always been the best residence quarter of the city, and it is likely to remain so.

Within the last twenty years the university has begun to maintain collections of great interest and value, which are open to the public under suitable regulation. The Botanic Garden, the Museum of Comparative Zoölogy, the botanical and miner-

alogical collections, the Peabody Museum of Archæology and Ethnology, the Semitic Museum, and the Fogg Museum of Art, are all objects of interest to the Cambridge public. On Wednesday, Saturday, and Sunday afternoons these collections are visited by large numbers of people, particularly from the 1st of April to the 1st of December. As the university becomes richer, this function towards the public will be more and more important.

From the 1st of October to the 1st of May, the university provides a very large number of evening lectures which are open to the public. These lectures cover a wide range of subjects, and are generally given by eminent experts. They relate to history, political science, the fine arts, philosophy, and literature, and afford to the Cambridge public many opportunities of seeing and hearing distinguished men, and of getting from the lecturers varied information and judicious incitement to good reading. It is Mr. Henry L. Higginson's desire to serve the officers and students of the university which has caused an annual series of concerts to be given by the Boston Symphony Orchestra in Sanders Theatre, — that admirable room for music.

The University Chapel has become of late years a new centre of interest for residents of Cambridge. Throughout the year Sunday evening services are conducted there by eminent men of many different denominations — from Jew to Catholic — and from November to April short services are also held every Thursday afternoon. The chapel music has been made interesting, and helpful devotionally. The undenominational policy of the university makes its chapel a unique institution as a place both of worship and of moral and religious instruction. All sorts of Cambridge people resort to it, some occasionally and some habitually.

The public schools of Cambridge are the better for the presence of the university. A long line of presidents and professors have taken strong interest in the Cambridge schools, and have contributed to their progress and wise management. The Cambridge High School has been for many years an exceptionally good one; and since the division was made between the High school and the Latin school the same excellent quality has distinguished the Cambridge Latin School. In these schools hundreds of Cambridge children have been prepared for entrance to the university. Any citizen of Cambridge, who can

afford to maintain his children until they are ready to practice a profession, can be sure of their receiving the best liberal and professional education given in this country, while all the time his children may live economically at home.

The establishment in Cambridge of the business of printing and binding books is historically due to the university. The first printing press in the colony belonged to Harvard College; and ever since that first press was set up the business of printing has been successfully pursued here. With the development of the national territory and the national wealth the manufacture of books has been established at many other centres; but at this moment three of the most important book presses in the country — presses in which the very best work is done — are situated in Cambridge. The business of lodging and boarding students is a considerable one in that part of the city called Old Cambridge. The university buildings do not provide chambers for even half the students; and Memorial Hall and the Foxcroft Club together cannot furnish board to more than half of the members of the Cambridge departments of the university who have no homes in Cambridge. For lodging the richer class of students large and handsome private dormitories have of late years been erected, buildings which add considerably to the valuation of the city for purposes of taxation. These buildings become more and more substantial and elegant; and it seems probable that they will be a more and more important element in the taxable property of the city. The first of these buildings was erected forty years ago by Mr. Charles C. Little, senior member of the well-known bookselling firm of Little & Brown. His example was not followed for several years; but recently at least one new private dormitory has been erected every year, and the process is still going on. Hundreds of purveyors, mechanics, porters, cooks, waiters, chambermaids, laundresses, and laborers get their livelihood from the university and its students.

It is not, however, the business interests of Cambridge which the university has done most to promote, large as have been its contributions direct and indirect to those interests. The whole character of the place as a residence has been strongly affected by the presence here for two centuries and a half of the university teachers, a group of men devoted, not to trade or manufactures, or money-making of any sort, but to the arts and sciences,

to authorship and teaching, and in general to the intellectual and spiritual elements in the life of each succeeding generation. Cambridge is an interesting place to live in, because the poetry of Holmes, Longfellow, and Lowell has touched with the light of genius some of its streets, houses, churches, and graveyards, and made familiar to the imagination of thousands of persons who never saw them its river, marshes, and bridges. It adds to the interest of living in any place that famous authors have walked in its streets, and loved its highways and byways, and written of its elms, willows, and chestnuts, its robins and herons. The very names of Cambridge streets remind the dwellers in it of the biographies of Sparks, the sermons of Walker, the law-books of Story, the orations of Everett, and the presidencies of Dunster, Chauncy, Willard, Kirkland, and Quincy. Cambridge is associated in the minds of thousands of Americans with scientific achievements of lasting worth. Here lived Dr. Benjamin Waterhouse, the first Hersey professor of physic, who introduced the kine-pox into America, and John Winthrop, Hollis professor of natural philosophy from 1738 to 1779, one of the very earliest students of the phenomena of earthquakes, the friend and correspondent of Benjamin Franklin, and the man whose lectures Benjamin Thompson (Count Rumford) walked from Woburn to hear. For two generations Asa Gray has turned the thoughts of innumerable students of botany, young and old, to Cambridge as the place where their guide into botanical science lived and wrote. For two hundred and sixty years the lamp of philosophy has been kept burning in this quiet town, and that illumination makes it a brighter place to live in for the present and the coming generations. Amid the universal struggles to get a livelihood, to make money, and to keep money, here is a place where hundreds of men live quite apart from that common quest. Here live hundreds of men who, having secured a modest but sure livelihood for themselves and their families, work in the main without thought of money, with their minds bent on intellectual pursuits, and kindled by enthusiasms which have nothing material as their end. What a cheerful presence in the city is the ever-rising tide of healthy, manly youth, full of hope, ambition, and high-minded purpose, making ready for worthy service in the outer world, but not yet burdened by its cares and griefs!

On one of the highest knolls of Cambridge stands the Astro-

nomical Observatory, a conspicuous and accurate type, in spirit and nature, of several other departments of the university. It is constantly at work trying to learn more truth about the heavenly bodies, — confident that the truth will somehow and somewhere prove serviceable, — but taking no account of immediate utilities. From the top of the Observatory one overlooks the homes and working-places of as comfortable and happy a population as the world contains, and can almost hear the hum of their industries, and feel the throb of their multitudinous joys and sorrows; yet with the daily cares and labors of that population the Observatory has nothing to do. It lives a life apart, devoted to observation and study of sun, moon, and planets, of comets and meteors, and of the stars, conscious indeed that navigation and time-keeping depend on these studies, but keeping in immediate view only the instant search for new truth.

It is natural that Cambridge should be an object of great interest to visitors from other parts of the country, and it is pleasant to live in a place which has such attractions. Few educated people from the West and the South come to New England without visiting this city, — so full of historical, literary, and scientific associations. The summer visitors to Boston regularly make pilgrimages to the College Yard, Memorial Hall, the Museum, the old graveyard between the two churches, the Washington Elm, Brattle Street, and Elmwood Avenue. Many graduates of the university, whose lives are spent in places remote from Cambridge, return thither from time to time to refresh their recollections and to watch the progress of improvements. As a rule these men return with feelings of affection and gratitude. These sentiments, felt by thousands of men, ennoble the city and make it a worthier dwelling-place.

HARVARD UNIVERSITY.

By BYRON SATTERLEE HURLBUT, A. M.,

RECORDING SECRETARY OF HARVARD UNIVERSITY.

In the office of the President of Harvard College, in University Hall, Cambridge, there hangs, framed in a narrow band of oak, a card, perhaps thirty inches long and twelve wide. On this are printed these inscriptions, which in a few words tell the origin, the history, and the purpose of Harvard: —

"Harvard University is a chartered and endowed institution fostered by the state.

"The Charter, given to the President and Fellows in 1650, is still in force unaltered.

"The direct grants of money made by the Legislature of Massachusetts to Harvard College between 1636 and 1785 amounted to $116,000. In 1814, the Legislature granted $10,000 a year for ten years.

"Between 1638 and 1724 the town of Cambridge repeatedly gave land to the College.

"In common with other Massachusetts institutions of education, religion, and charity, the University enjoys exemption from taxation on its personal property, and on real estate occupied for its own purposes.

"Beginning with John Harvard in 1638, private benefactors have given to the University in land, buildings, and money at least $11,000,000.

"The principal objects of permanent endowment have been as follows: —

1. Instruction and research.
   (*a*. Professorships.
   b. Observatories, laboratories, and workshops.)
2. Collections. (Libraries, Museums, Gardens, and Arboretum.)
3. Aid for Students. (Scholarships, Fellowships, and other aids.)
4. Prizes. (For essays, versions, and speaking.)
5. Publications. (Annals, Journals, Memoirs, Monographs, and Bulletins.)
6. Administration. (Salaries in administrative offices, libraries, and collections.)"

Below these inscriptions are two more, one speaking of John Harvard: —

"John Harvard was a Master of Arts of Emmanuel College, Cambridge, England, founded by Sir Walter Mildmay."

The second is a quotation from Thomas Fuller's "History of the University of Cambridge" (1655), and speaks thus of Sir Walter Mildmay: —

"Coming to Court after he had founded his Colledge, the Queen told him, Sir Walter, I hear you have erected a Puritan Foundation. No, Madam, saith he, farre be it from me to countenance anything contrary to your established Lawes, but I have set an Acorn, which when it becomes an Oake, God alone knows what will be the fruit thereof."

College Gate
HARVARD COLLEGE LIBRARY
HARVARD LAW SCHOOL
AGASSIZ MUSEUM

From the oak which Sir Walter planted thus, three centuries ago, sprang Harvard College, the oldest institution of learning in America.

The university of to-day includes the college of the older days, and eight schools: the Graduate School, the Lawrence Scientific School, the School of Law, of Medicine, of Divinity, of Dentistry, of Veterinary Medicine, and that of Agriculture and Horticulture, in which, during the academic year 1895–96, instruction is given to three thousand six hundred students by three hundred and sixty-six teachers. Moreover, the university is not idle during the long vacation; for six weeks the Summer School is in session. In 1895 the students in this school numbered five hundred and seventy-five. Thus, in a single year, the university has given instruction to more than four thousand students.

In matters of administration three of the departments of the university are closely united: Harvard College, the Lawrence Scientific School, and the Graduate School are under the charge of the Faculty of Arts and Sciences, which, however, delegates to an administrative board, appointed for each, minor questions of government and administration. To the students under its control this Faculty offers four hundred and thirty-seven courses of instruction, divided among the following subjects: Semitic Languages and History; Indo-Iranian Languages; Greek; Latin; English; German; French; Italian; Spanish; Romance Philology; Comparative Literature; Philosophy; History; Government; Economics; Fine Arts; Architecture; Music; Mathematics; Engineering; Physics; Chemistry; Botany; Zoölogy; Geology; Mineralogy and Petrography; American Archæology and Ethnology; Anatomy, Physiology, and Physical Training; and Military Science.

Harvard College, from which the university has grown, is the oldest and largest of the departments of the institution. Its standard of admission and its requirements for the degree of Bachelor of Arts are higher than those of any other American college or university. The requirements for admission, however, are not rigid, for a student may be admitted on any one of four plans of study. Within the college still greater freedom awaits him; once a member of the university he may with hardly a single restriction choose his own course, selecting those studies which inclination, his natural aptitude, or his

future occupation points out as best fitted to equip him for the world. He is not, however, left to select his courses heedlessly. As a Freshman he must secure for his plan of study for the year the approval of an instructor, who is appointed to act as his adviser, and although as a Sophomore he is free to choose for himself, he nevertheless is encouraged to seek the advice of his instructors, that he may make the best use of his freedom. To secure the degree of Bachelor of Arts he must have passed with at least a certain prescribed rank in eighteen courses of study, two of which are prescribed courses in English, and he must have some knowledge of both German and French, if he had it not when he entered college. Except for these restrictions his course is what he himself determines; he is what he elects to be. Neither is the period of residence at the college absolutely fixed; the usual term of residence for the degree is four years, but students from other colleges are admitted to advanced standing, and those who in three years complete with distinction the required number of courses are, upon the recommendation of a committee of the Faculty, allowed to graduate at the end of that period.

This, then, is the framework, the fleshless skeleton, of a student's career at Harvard College. This is his education in books. Beyond this, equal in value, there is the education that he gains from intercourse with his fellow-students, in exercise, and athletic sports, in social and dining clubs, in societies founded in a common interest in study, or religion, or a desire to help his fellow-men less fortunate than himself, the avocations which make him a well-rounded man, fully developed in body and mind and spirit, — without which his mere study of books might leave him dwarfed and narrow-souled.

Side by side the college student and the student of the Scientific School do much of their work. The latter, it is true, is receiving a professional training, but with it he gains, unconsciously, perhaps, more liberal views of life, a more cultured spirit, more of the "humanities," than does he who is trained in an isolated professional school. The advantage, however, is not his alone; his example of steady aim and fixed purpose helps his college fellow to shape his own life to a definite end. Thus it is that the close union of Harvard College and the Lawrence Scientific School is peculiarly fortunate; each reacts helpfully upon the other.

Never in its history has the Scientific School been as prosperous as it is to-day. In a decade the number of its students has swelled from twenty-two to three hundred and forty, an increase brought about largely by the great development of its field of instruction, and the systematic arrangement of its courses. The school offers eleven courses of study, — Civil and Topographical Engineering, Electrical Engineering, Mechanical Engineering, Mining Engineering, Architecture, Chemistry, Geology, Botany and Zoölogy, General Science, Science for Teachers, and Anatomy, Physiology, and Physical Training. On the completion of any one of these courses with at least a certain rank, a student is awarded the degree of Bachelor of Science. The usual term of residence and study for the degree is four years, but here, as in the college, students are admitted to advanced standing either upon examination or satisfactory evidence of work done at other schools. The requirements for admission are not so severe as are those for admission to Harvard College; the standard of work, however, is high, and demands most faithful study. In this respect, the Faculty of Arts and Sciences makes no distinction between the college student and the scientific: both are subject to the same laws. So, too, in the undergraduate world itself no lines are drawn; in societies, in athletics, in all the affairs of student life, members of the two departments are on an equal footing.

The Graduate School, which numbers two hundred and sixty-nine resident and sixteen non-resident students, offers to graduates of colleges and like institutions of learning opportunities to carry on advanced study in the various departments of instruction under the charge of the Faculty of Arts and Sciences. The growth of this school has been so gradual and so quiet that some have failed to realize how important a part of the university it has become. It stands to-day for the higher education, for the deepest and broadest learning. To it come serious men who love knowledge and the increase of knowledge, men who have dedicated themselves to learning. The greater part of this body of students go out from the school to teach, — they are scattered in all parts of the country; and in this fact one may see how much the Graduate School does to strengthen the influence of the university, to aid the cause of higher education. Year by year the school grows, its influence ever broadening; every year the number of colleges sending students to it in-

creases. This present year it numbers among its students graduates of a hundred different colleges and higher institutions of learning.

For admission to the school a candidate must give satisfactory evidence of scholarship. Once admitted, he is not necessarily a candidate for a degree; this depends upon other considerations. The degrees for which he may become a candidate are those of Bachelor of Arts, Master of Arts, Doctor of Philosophy, and Doctor of Science.

For admission to the Divinity School a candidate "must furnish testimonials of character and scholarship," and to be a candidate for the degree of Bachelor of Divinity he "must have received the degree of Bachelor of Arts, representing a course of study approved by the Faculty." If he has not this degree, he must satisfy the Faculty that his "education has been equal to that of graduates of the best New England college." In this, as in the other schools, men are admitted to advanced standing, and they may also enter the school as special students. To obtain the degree of Bachelor of Divinity a student must be properly qualified, and must have been "connected with the school for not less than one year, and have passed satisfactorily examinations" on a prescribed amount of work. In addition to conferences and general exercises, such as preaching and the conducting of morning and evening prayers, the school requires that a student shall pursue a certain number of courses of study chosen from among the following subjects, — Old Testament, New Testament, Church History, Comparative Religion, Ethics, Sociology, Theology, and Homiletics and Pastoral Care. Instruction in Elocution is also given. The instruction in the school is nonsectarian; the eleven officers and teachers on its staff, representing various denominations, unite in encouraging an unfettered search for truth.

In 1882 a generous benefactor gave to the university for its Law School a new hall, which, it was calculated, would accommodate the growth of the school for half a century. In a single decade the school has outgrown this building; in 1896 the students number four hundred and sixty-five. This rapid growth and the great prosperity of the present are in large measure due to the method of instruction pursued in the school, the so-called "Case System," in which students, instead of committing to memory textbooks, study actual cases, and from

these deduce the principles of law; a system, which, adopted first at Harvard, has revolutionized the study of the law. "The design of this school," the catalogue of the university says, "is to afford such a training in the fundamental principles of English and American law as will constitute the best preparation for the practice of the profession in any place where this system prevails." To this end, therefore, a student is not drilled in the peculiar law of any one State, but in the general principles of law, a training which best fits him to understand the living law, and thus enables him better to adjust himself to the details of the law in that State in which he may chance to be. The study of details of law in particular States is ancillary to that of general principles.

The Faculty of the school offers courses in Contracts, Criminal Law and Procedure, Property, Torts, Civil Procedure at Common Law, Agency, Bills of Exchange and Promissory Notes, Carriers, Contracts and Quasi-Contracts, Evidence, Insurance, Jurisdiction and Procedure in Equity, Law of Persons, Interpretation of Statutes, Sales of Personal Property, Trusts, Damages, Constitutional Law, Corporations, Partnership, Suretyship, and Conflict of Laws. Extra courses are also provided, — the Peculiarities of Massachusetts Law and Practice, and Civil Procedure under the New York Code. Furthermore, "every student who has been in the school one year or more has an opportunity each year of arguing in a moot court case before one of the professors;" additional practice may also be gained in the law clubs.

Upon graduates of the school is conferred the degree of Bachelor of Laws, for which the usual term of residence is three years. For admission to regular standing in the school a candidate must be the holder of an academic degree in Arts, Literature, Philosophy, or Science, of a reputable college or university, or a person qualified to enter the Senior Class of Harvard College. Such candidates are admitted without examination. The list of colleges, which at present includes one hundred and thirty-five, whose graduates are entitled to admission, is made up from the "colleges whose graduates have entered the school in recent years. It is accordingly not intended to be exhaustive, and will doubtless be enlarged from time to time." Candidates who do not meet the requirements for regular standing may upon evidence of work done, or upon

examination, be admitted as special students, and upon obtaining a certain prescribed rank may receive the degree of Bachelor of Laws. Students are also admitted to advanced standing, and opportunities for advanced study are given to graduates.

For admission to the Medical School candidates must pass examinations in certain prescribed subjects, but those who present a "degree in Letters, Science, or Medicine are exempt" from all examinations except that in chemistry. The examinations for admission to this school are not as severe as those for admission to Harvard College; but in medicine, as in law, those who have had a college training have distinct advantages over those not thus equipped. The students in the school number five hundred and thirty-one; the teachers, sixty-five.

The following courses of instruction are offered: Anatomy, Histology and Embryology, Bacteriology, Physiology, Chemistry, Hygiene, Therapeutics and Materia Medica, Pathology and Pathological Anatomy, Surgery, Orthopedic Surgery, Clinical Surgery, Dermatology, Theory and Practice of Physic, Clinical Medicine, Neurology, Psychiatry, Pediatrics, Obstetrics, Gynæcology, Ovarian Tumors, Syphilis, Ophthalmology, Otology, Diseases of the Throat and Nose, Diseases of the Genito-Urinary Apparatus, Legal Medicine, Municipal Sanitation, Clinical Microscopy, Cookery, and Orthopedics. Instruction is given not by lectures only, but by an abundance of practical exercises under the supervision of instructors, with the design that a student shall learn to rely upon himself; that his knowledge shall not be merely theoretical. Furthermore, the students secure in the hospitals of Boston those especial advantages for study and observation which are found in large cities only. A student who satisfactorily completes the required course of study is awarded the degree of Doctor of Medicine. The usual term of residence for the degree is four years, but students are, upon satisfactory evidence, admitted to advanced standing. Opportunities for research and for advanced study are offered to graduate students.

For admission to the Dental School the requirements are akin to those for admission to the Medical School. The methods of instruction, too, in the two schools are similar. To the student of dentistry the following courses are offered: Anatomy, Physiology, Chemistry, Histology and Embryology, Bacteriol-

ogy, Operative Dentistry, Mechanical Dentistry, Surgery, Operative Surgery, Dental Pathology, Oral Anatomy and Physiology, Surgical Pathology, Materia Medica, Orthodontia, Neurology, and Crown and Bridge Work. The degree conferred upon graduates of the school is that of Doctor of Dental Medicine. The number of students in the school in 1896 is one hundred and two. The Faculty and other instructors number thirty-nine.

The School of Veterinary Medicine, which, like the Dental and the Medical schools, is established in Boston, has fifty-five students and a staff of twenty-two teachers and officers. It offers instruction in Anatomy, Physiology, Chemistry, Botany, Materia Medica and Therapeutics, Pathology and Pathological Anatomy, Surgery, Ophthalmology, Parasitic Diseases, Theory and Practice, Obstetrics, Warranty and Evidence, Meat Inspection, and Clinical Veterinary Medicine and Surgery. Here, as in the other schools of medicine, especial attention is given to practical instruction. The degree which is conferred upon students who satisfactorily complete the course of study is that of Doctor of Veterinary Medicine; the usual term of residence and study is three years. Students are admitted to the school upon the presentation of certificates of admission to recognized colleges or scientific schools, or upon examination.

The Bussey Institution, a school of Agriculture and Horticulture, is established at Jamaica Plain. It gives "systematic instruction in Agriculture, and in Useful and Ornamental Gardening. . . . It is, in general, meant for young men who intend to become farmers, gardeners, florists, or landscape gardeners; as well as for those who will naturally be called upon to manage large estates, or who wish to qualify themselves to be overseers or superintendents of farms, country seats, or public institutions." Instruction is given in the Theory and Practice of Farming, Horticulture, Agricultural Chemistry, and Rural Hygiene, by a staff of seven instructors. The students in the school number fifteen. The degree of Bachelor of Agricultural Science is conferred upon graduates.

Within late years there has grown up at the university another department, the value of whose far-reaching influence it would be difficult to overestimate. This is the Summer School. The students in this school are chiefly teachers drawn hither from all parts of the country, from Maine to California, from

Minnesota to Texas, to enjoy the advantages that the university offers in its libraries and museums, to receive instruction, and to learn Harvard methods of teaching. From the inception of the school the number of its students has steadily grown, until in 1895 five hundred and seventy-five were registered. For the summer of 1896 the school offers at Harvard College and the Lawrence Scientific School courses in English, German, French, Mathematics, Engineering, Physics, Chemistry, Geology, General American History, Education and Teaching, Freehand Drawing, Botany, Physiology and Hygiene for Teachers, Physical Training, and Latin, and also courses at the Medical School and the Dental School.

To foster the physical and the intellectual development of the students Harvard provides ample foundations which here can only be mentioned: the Gymnasium, the Carey Building, the University Boat House, the Weld Boat Club, Holmes Field, Jarvis Field, and the Soldier's Field; the College Library, and thirty-four school, departmental, laboratory, and class-room libraries, possessing 466,410 volumes, and a collection of pamphlets and maps estimated to be equal in number; the Chemical Laboratory; the Jefferson Physical Laboratory; the University Museum, consisting of the Museum of Comparative Zoölogy, with its laboratories of Zoölogy, Palæontology, Entomology, Geology, Petrography, and Physical Geography; the Botanical Museum, with laboratories of Cryptogamic and Phanerogamic Botany; the Mineralogical Museum and laboratories; and the Peabody Museum of American Archæology and Ethnology; the Semitic Museum; the Botanic Garden and Herbarium; the Astronomical Observatory; and the Arnold Arboretum.

The religious life of the university finds its centre in the services of the Chapel, and its guiding influence in the board of university preachers, each of whom, during his term of residence, not only conducts the public religious services, but also stands ready to aid any student who may seek him. From this centre radiates the religious life of the university, which finds expression in the religious societies and the little bands organized to work among the poor and the unfortunate.

To provide for the maintenance of the university, men have given of their store, small or great, for more than two centuries and a half. In the days of poverty and struggle, when money was scarce in the colony, they gave of the produce of

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their land in proportion to that which God had given them. With the increase of prosperity, they have given not more liberally but more largely, until, to-day, the value of the possessions of the university in land, buildings, and money amounts to fully thirteen millions of dollars. Of this more than eight millions represent what may be called "quick capital;" five millions are invested in lands, buildings, and collections used for university purposes. The lands owned and occupied by the university, the College Yard and the adjoining fields, the Soldier's Field, the Gardens, the Observatory grounds, the Arboretum, the Bussey lands and other lands in Cambridge, Boston, and neighboring towns, amount to nearly seven hundred acres. The buildings owned by the university and occupied for its purposes are more than sixty: of the principal buildings fifteen are dormitories; thirty-five are variously used as lecture-rooms, offices, observatories, laboratories, museums, libraries, dining-halls, and buildings devoted to athletic purposes. From its invested funds, tuition-fees, rents, and other sources of income, the university received, in 1894–95, one million eighty-four thousand and ninety dollars, of which fully ninety thousand dollars was awarded to meritorious students in the form of scholarships, fellowships, and various other aids.

Such is the outward, the physical Harvard. More important, however, than the outward showing of a college is the spirit which animates its students. Unthinking men have long misunderstood the spirit of Harvard, perhaps because at Cambridge men do not talk much of spirit; they know that talk means little in the struggle of life, that action counts. Even graduates of the university fail to realize how strong this spirit is in the college world.

From the world outside there comes a cry that Harvard is indifferent, — yet nothing is falser; men do not rightly judge the attitude of the college. From its foundation Harvard has stood for the cultivation of the individual, and those who do not think say this is selfishness. It is its opposite. Harvard individualism means that every man shall develop what is best in him, that thus he may fit himself to serve his fellows. Toward this ideal the university has struggled for two centuries and a half, and in these later years, with the rapid development of the elective system, by which each man has fitted his studies to his needs, the university has come nearer to it. To one who

knows Harvard there is something almost ludicrous, were it not for the sorrowful thought that the university is so misunderstood, in the cry of Harvard indifference. Because schoolboy ideals and codes are fast disappearing, because men will not be driven in a body, because a man thinks that above all he should seek to make best use of those powers God has given him, Harvard is indifferent. If this be indifference, the charge is true; but it is indifference of this sort that has moved the world.

There is, however, at Harvard, indifference to some things that older men prize. Nowhere is there a more democratic community. Wealth and lineage unsupported by genuine merit lack the power they possess in the world outside: a man counts for what he is, be he student or instructor; and this very state of things has done away with the old relationship between the two: student and instructor are no longer at war, — they are working together toward a common goal.

Perhaps, too, the world has talked of indifference because the Harvard man says little of the things he cares for most. He wears neither a "society pin" upon his waistcoat, nor his heart upon his sleeve. He is silent about the good deeds that he does; yet week after week he goes to a "Boys' Club" in some wretched district of Boston; or he gathers about him the little band that centres round a "Home Library;" there is a sailors' mission where Harvard students may be found Sundays, and a "Prospect Union," where men who have toiled all day meet at night to study, and Harvard students are their teachers. They devote time and strength to these, but they say nothing. Silently the rich have given of their abundance to their classmates, who, in the struggle for an education, have had also to win their bread. Many a man, almost despairing in the struggle, has taken heart at a gift that came he knew not whence. "I must do this, at least," the giver says, "but my name must not be known." And many a poor man has helped his fellow poorer than himself. For these things those who know and love Harvard believe in her — for these things that the world knows not of. Nor does it see, perhaps because it does not care to look, the strong current of honest, clean right-living, the search for truth, the endeavor to develop all the powers that God has given, these things that are the true spirit of Harvard.

He who pauses before the entrance gate of the college may see above the central portal, wrought in the iron work, the

Cross, and upon the right-hand pillar the seal of the college with *Veritas* inscribed upon the open books. Carved upon the wall at his right hand are words written two centuries ago: —

AFTER GOD HAD CARRIED US SAFE TO NEW ENGLAND
AND WEE HAD BUILDED OUR HOUSES
PROVIDED NECESSARIES FOR OUR LIVELI HOOD
REARD CONVENIENT PLACES FOR GODS WORSHIP
AND SETLED THE CIVILL GOVERNMENT
ONE OF THE NEXT THINGS WE LONGED FOR
AND LOOKED AFTER WAS TO ADVANCE LEARNING
AND PERPETUATE IT TO POSTERITY
DREADING TO LEAVE AN ILLITERATE MINISTERY
TO THE CHURCHES WHEN OUR PRESENT MINISTERS
SHALL LIE IN THE DUST

Here the colonists founded their college, and across its shield they wrote *Veritas*. Harvard has been true to her inheritance. Still she teaches her sons to seek for truth as she sends them forth to a ministry wider far than that of which the fathers dreamed, for which they hoped and prayed.

CHAPEL AT HARVARD.

By THE RIGHT REV. WILLIAM LAWRENCE,
BISHOP OF MASSACHUSETTS.

One cannot consider the movements of the religious life of Harvard apart from the history of the development of the university from a college.

Thirty years ago Harvard was a college. The whole system of discipline was adapted to youth and immaturity of character. The student was under the eye of the college every hour of the day and night; his courses of study were marked out for him, lessons from the textbooks were given from day to day. He was under tutelage. In harmony with this system he was required to go to daily prayers and to Sunday worship. To be sure there was an occasional protest that religion stood on a different footing from studies. But the answer was reasonable that in the development of the boy, religion had its place with study, and why should it not be under the same rules?

Thus at an early hour every morning the college bell, under the faithful charge of "Old Jones" as he was affectionately called, caused several hundred young men to leap from a deep

sleep into their clothes and make their hurried way along the muddy paths and around the puddles of the yard to the chapel. The whole college could then be accommodated in the chapel, though at that time it had no side galleries. It was popularly supposed that Jones was not as faithful at the furnace as he was at the bell; but perhaps the fault was with the furnace. With upturned coat-collars, the students watched good old Dr. Peabody remove his spectacles to read the Scriptures and then replace them to offer prayer; they then joined heartily in one of the familiar hymns and after the benediction broke away for breakfast.

It has become the fashion in these latter days to speak of the prayers of early times as worse than useless, and to emphasize the irreverence of students compelled to pray. While there was irreverence sometimes, and though the Doctor was occasionally warned by a knocking on the pews if he prayed too long, yet the great body of the young men were reverent, and many of them entered devoutly into the service. Two things at least were impressive and affected the lives of the students, — the daily contact with the simple and pure character of Dr. Peabody and the hearty singing of the closing hymn.

With the development of the elective system under President Eliot, the larger freedom in discipline and the greater maturity of the students, the old religious system gradually became discordant with the prevailing note of college life.

Religious institutions are conservative. It was natural therefore that the proposition of a new method should make its way slowly into the confidence of the officers of the college and of the community.

Formerly studies, recitations, and prayers had been considered as duties. Under the new régime, elective studies and lectures were lifted to the plane of privileges, — why not prayers as well?

Gradually the responsibility as to the attendance of the students at Sunday worship was removed from the college to the parents, and then to the students themselves. The last thing that Harvard wanted to do was to weaken the forces of religion in the university. The problem was how, under the new conditions, religion and spiritual influences could be made more effective.

The first step was to dignify worship and daily prayer, by making them not a matter of compulsion but of privilege.

That they should be so considered by the students, great pains were taken to make them more attractive. A fine choir of men and boys and a more congregational form of worship were features in the movement. But the great step that the university made was in calling to her service some of the strongest men in the ministry, who were led to devote a few weeks in each year to the spiritual interests of the students.

Before this plan had been matured Dr. Phillips Brooks had been invited to be the chaplain of the university. He declined, fortunately; for the larger and more effective plan, by which he with others could place some of their life at the service of the college, was now developed. In this he was always a most interested and sympathetic adviser of the president, whose object was to make the Christian religion a dignified, natural, and effective force in the new life of the university. The influence which he brought to bear in favor of the new plan was most potent in causing its adoption.

An adaptation of the English cathedral system of canons in residence was devised. Six preachers to the university were appointed, one of them, Professor F. G. Peabody, being a permanent teacher. During the thirty-six weeks of term-time each preacher became responsible for the services and prayers for six weeks.

The practical result is this. At a quarter before nine every morning a body of students who wish to open the day with common prayer in company with their fellows meet in Appleton Chapel, and the preacher in residence leads them in prayer. He also conducts the Sunday evening services, when the congregation fills the chapel, as is also the case at the Thursday afternoon vesper services. Every morning in the term a preacher is at Wadsworth House to receive and help with counsel the many students who call.

The students have responded to the responsibility laid upon them, and the religious and charitable societies of the college have taken on new life.

The city of Cambridge has been a gainer, for from this new movement has sprung the Prospect Union, and the ministers in Cambridge feel a satisfaction in preaching to young men in the parish churches who come to church on Sunday mornings not under the compulsion of a collegiate discipline but from a desire on their own part to worship.

PHYSICAL TRAINING.

By DUDLEY A. SARGENT, M. D.,

DIRECTOR OF THE HEMENWAY GYMNASIUM.

In reviewing the material growth and prosperity of a city it is well to consider some of the factors that have contributed to its renown in the best sense. Although an aggregation of houses and buildings inhabited by a few thousand people may constitute a city, and it may be rated in prosperity in proportion to its increase in buildings and population, and its growth in wealth and industries — may we not look for higher evidences of its comparative rank in its development of principles and men?

Now that our cities are rapidly becoming like so many furnaces where human lives are consumed like coal to meet the demands of our civilization, the question of how to conserve life and add to its capacity for health and enjoyment is rapidly growing in importance. Perhaps no community has taken hold of this subject with a more comprehensive grasp than the one in which we live. Cambridge may be said to be the very centre of growth in municipal health and individual hygiene in America.[1]

The effects of a sedentary life, and the close confinement necessarily accompanying the intellectual efforts of the students, must have drawn the attention of the college authorities to the matter of health preservation at an early period in its history, although we have no record of any practical effort in this direction until the first quarter of the present century. It is interesting to observe that whatever efforts are made by the college towards the maintenance of health must necessarily be supplemented by the city. The college can teach the elements of hygiene and correct methods of living, and the individual may apply these precepts to his own life, but so long as the physical

[1] See chapter on Health in Cambridge, by H. P. Walcott, M. D. — Editor.

HEMENWAY GYMNASIUM. HARVARD UNIVERSITY.

man is ultimately the product of the air he breathes, the food he eats, and the water he drinks, his immediate environments must play an important part in his health and development.

In this respect, a man who undertakes to build himself up mentally or physically becomes for the time being simply an agent of distribution. That is, by bringing his mental faculties into increased activity he can send nutriment to his brain, or by using his muscles vigorously he can send nutriment to different parts of his body, in this way building up and elaborating material substances into the highest kind of organic faculty.

But the nature of these material substances and the condition in which they are brought to him are often beyond his individual control. Thus the condition of the soil, the source and nature of the food and drinking water, the presence of stagnant pools and nuisances in the neighborhood, the overgrowth of trees, the prevalence of dust, the state of the sewerage and of the streets, drains, and rivers, are all matters which affect individual health, but unfortunately are matters over which the individual oftentimes can have but little influence.

Here it is that men acting collectively or as a municipality may effect changes and improvements for the common good. As the individual suffers or prospers in consequence of his environment, so the city prospers or deteriorates as it becomes attractive or otherwise to the individual as a place of residence or a place of business. Thus it might be maintained that in health matters, as they affect individuals, institutions, or the public, the interest of the college and the city are reciprocal if not identical. Let us note, therefore, the progress which the college and the city have made in these matters during the past century. In this review I shall confine myself principally to the health agencies brought into popular service through what is ordinarily termed physical training.

Harvard's first attempt to afford her students physical exercise in addition to that which they obtained in performing the ordinary duties of life seems to have been about 1826. In this year Dr. Follen came to Cambridge and established a gymnasium at Harvard College, in one of the unoccupied Commons halls, which was fitted up with various gymnastic appliances. Other fixtures were erected on the Delta, where Memorial Hall now stands, but concerning the working of these gymnasiums we have, unfortunately, very little knowledge.

Dr. John C. Warren, who for forty years was professor of anatomy and surgery in the Harvard Medical School, and who at that time lectured to the students at Cambridge on the preservation of health, states that small gymnasiums were established, soon after the opening at Harvard, at most of the schools, academies, and colleges, male and female, in the vicinity. Some years later, Dr. Warren writes: "The establishment of gymnasia throughout the country promised at one period the opening of a new era in physical education. The exercises were pursued with ardor so long as the novelty lasted, but owing to not understanding their importance, or some defect in the institution which adopted them, they have gradually been neglected and forgotten, at least in our own vicinity. The benefits which resulted from these institutions, within my personal knowledge and experience, far transcended the most sanguine expectations. The diversions of the gymnasium should constitute a regular part of the duties of all colleges and seminaries of learning."

The only authentic account of the work done at the Harvard gymnasium in 1826, that I have been able to find, is that contained in Dr. Edward Jarvis's work on "Physiology and the Laws of Health," published thirty years ago. In this treatise he says: "The students were invited to go to the playgrounds at twelve, and engage in gymnastic exercises till one o'clock. These were very active, and some of them violent for men and boys of their strength, so that when they left the field for dinner they were generally fatigued, and some were almost exhausted. Those who were most fatigued ate their dinner with less relish, and felt neither refreshed nor comfortable afterwards. Their stomachs could not digest the meal with the usual ease, and consequently they were heavy and indisposed for study in the afternoon."

Again Dr. Jarvis writes: "It was supposed several years ago, during the period beginning 1826, that the gymnasium would furnish opportunities and inducements to exercise for all such as were not required by their business or their condition in life to labor. In these establishments means were provided for using all the limbs and muscles. There were ropes to climb, parallel bars to walk upon with the hands, and wooden horses to mount upon and leap over. There were means for climbing, swinging upon the arms, leaping, vaulting, and for performing

some of the feats of the rope dancer, and some of the labors of the sailor. These exercises were active and laborious. Those who engaged in them made, or endeavored to make, the exertions which only strong men could make. But they were soon fatigued, and left the gymnasium; or, if they persevered, were nearly exhausted. The error was not adapting the mode to, and measuring the amount of exertion by, the strength of those who needed it.

"The students of Cambridge in 1826 complained that they were fatigued and sometimes overcome, rather than invigorated, at the gymnasium, and were unfit for study for some hours afterward. The final result of this attempt to introduce this system of exercises into our colleges, schools, and cities was a general failure."

Colonel Higginson speaks of this gymnasium on the Delta as being in existence in 1830, but thinks there was nothing left of it by 1840, and he is sure that when he graduated in 1841 there was nothing like a gymnasium existing in Cambridge.

In 1843 or 1844, a private gymnasium was established back of Wyeth's store on Brattle Street, in an old building which formerly stood where Lyceum Hall now is, originally used as a court-house.[1] This private gymnasium was conducted by a man named T. Belcher Kay, who devoted most of his attention to boxing. Parkman, the historian, and many of the men in college at that time, were pupils of Kay, though the gymnasium had no official connection with the university.

During this period considerable interest was awakened in recreative games, football, baseball, and cricket then being played. College boat-clubs were formed in 1845, and the first boat-house was built in 1846. From this year on, boating was freely engaged in by the students, partly for exercise, but principally for pleasure. Although boat races began as early as 1845, there were no contests with Yale and other colleges until after 1850. During the next decade the seed sown by Harvard was beginning to bear fruit in other institutions. Match ball games and boat races were occasionally arranged, and a renewed interest in gymnastics was awakening. In 1860, the old

[1] It may be interesting to note that this building forms part of the rear of the Whitney building on Palmer Street, where forty years later (in 1883) the writer opened a gymnasium for the students of the Harvard Annex, as it was then termed.

gymnasium opposite Memorial Hall, now used by the engineering department, was erected.

Immediately after the establishment of the gymnasium at Harvard in 1860, gymnasiums were built at Amherst, Dartmouth, Princeton, Yale, Wesleyan, and several other colleges. In the early sixties, the present game of baseball was first played at Harvard, and the Cambridge city government granted a petition for the use of the Common near the Washington Elm as a practice ground for the college students. This was used until the spring of 1864, after which the Delta was used for baseball games.

In the next decade, beginning 1870, several more college gymnasiums were built, including the Hemenway Gymnasium at Harvard University. The Harvard Athletic Association was established in 1874, and the Rugby football game, which seems to have such a hold upon the American public, was introduced at Harvard at about this time.

With the completion of the Hemenway Gymnasium, and its equipment with a new system of apparatus, a new era was introduced in gymnasium construction and in gymnasium methods. Some of the features which made the Hemenway Gymnasium unique at the time of its opening may be briefly stated: It was the largest gymnasium in point of floor-room, air space, and the number of its dressing-rooms, lockers, and pieces of apparatus then in the country. The recent addition given to the university by Mr. Hemenway has placed the Harvard Gymnasium again at the head of the list in all of these particulars. The Hemenway was the first gymnasium in the country to have special rooms devoted to rowing, baseball, fencing, sparring, trophies, records, photographing, examinations, etc.

In the old-style gymnasium it was necessary for the man to adapt himself to the apparatus; in the new-style gymnasium, the apparatus is adapted to the man. At first, the apparatus was heavy and cumbersome, and the man was obliged to lift his own weight. In his efforts to do so he was frequently overworked and exhausted, as previously stated by Dr. Jarvis. Now most of the apparatus is attached to a weight that he can lift, and this is easily adjusted to the strength of the strong and the weakness of the weak. Formerly, in using the gymnasium, a young man was forced to enter into competition with others in

the performance of difficult feats; now he can avoid the heavy apparatus if he desires to, and enter into competition with himself; that is, with his own condition from time to time, as determined by physical examinations. The old gymnasium was necessarily restricted to the few on account of the limited nature of its equipment; the modern system of apparatus and developing appliances has opened up the possibilities of the gymnasium to everybody. Formerly, any kind of material, put together in any way, was thought good enough to "make things for boys to play with;" now, the best material on the market is selected for gymnastic and athletic goods, and the best mechanical skill in the country is engaged in the construction of athletic appliances. When the history of the rise and spread of the interest in physical exercise is written, it will be surprising to many to know how much of this interest may be attributed to the genius of the inventor, and the skill of the artificer and mechanic.

The introduction of the new apparatus at Harvard made also a new era in the method or system employed. Whereas in many institutions attendance upon gymnasium exercises is required by classes, at Harvard the attendance is voluntary, and the system adopted is one designed to meet the special wants of each individual. Realizing the great diversity in age, size, and strength, as well as in health, of the students who attend the university, the director makes no attempt to group them into classes which pursue the same course of exercises.

Upon entering the university, each student is entitled to a physical examination by the director, in which his bodily proportions are measured, his strength tested, his heart and lungs examined, and information solicited concerning his health and inherited tendencies. From the data thus procured a special order of appropriate exercises is made out for each student, with specifications of the movements and apparatus which he may best use. These exercises are marked in outline on cards without charge, or in handbooks accompanied by charts at a small expense. After working on this prescription for three or six months, the student is entitled to another examination, by which the results of the work are ascertained, and the director enabled to make a further prescription. Students holding scholarships are expected to be examined twice a year, and those desiring to enter athletic contests are required to be examined by the director, and obtain his permission so to do. In

addition to the individual prescriptions, there are classes in free movements and light gymnastics, designed to afford an opportunity for general development to all students of the university who are not members of the athletic teams, or who are not in need of specially prescribed exercises. All students desiring to enter as competitors in athletic contests are required to give evidence of their ability by making a series of strength tests, in addition to the regular physical examinations. Under this régime the attendance at the gymnasium has grown from about 500 in 1880 to 2000 and over in 1896.

Perhaps the most radical difference between the old and new Harvard may be illustrated by the position the authorities have taken since 1882 in regard to athletic sports. In the later sixties, and all through the seventies, the athletic zeal and energies of the students were concentrated upon the production of a successful baseball nine and a winning boat crew. Given other institutions fired with the same ambition and equally persistent, it was only a question of time when the efforts in this direction would be carried to excess. The Harvard faculty concluded that its students had reached this stage in 1882, and appointed a committee to regulate and control athletic sports in the university. The work and policy of this committee is too familiar to the Cambridge public to call for any comment here. In the mean time, another phase of the athletic problem has presented itself. While some institutions seem much concerned as to what their students are doing for athletics, the authorities of Harvard University are more desirous of knowing what athletics are doing for their students. In other words, the growing disparity between the number of athletic teams and the increasing number of students is becoming more marked every year, and efforts are being made to extend the athletic facilities of the university so that larger numbers of students can enjoy the advantages of practicing out-door exercises.

Through the munificence of Mr. Augustus Hemenway, Colonel H. L. Higginson, Mr. G. W. Weld, and a few other graduates, the general plant for exercise, physical training, and athletic sports has been greatly augmented within the past few years. It is doubtful if any institution in the world can surpass the facilities of Harvard in this department of education. But how has Cambridge been affected by this revival of interest in physical training? some of my readers may ask. The

Y. M. C. A. gymnasium at Central Square, and the Cambridgeport gymnasium on Prospect Street were among the first to adopt the Harvard apparatus, which has also recently been introduced into the Newtowne Club gymnasium at North Cambridge.

Although this new movement in gymnasium construction and equipment got its first footing in Cambridge, no manufacturer in the city had faith enough in the future growth and demands for gymnasium supplies to embark in it as a business enterprise, though there are several companies in different parts of the United States making this new style of apparatus. We shall not attempt to describe the extent to which this new movement in physical education has spread, the number of persons reached, nor the amount of money expended in land, buildings, and equipment. We know that gymnasiums and athletic clubs have arisen by the hundreds all over the country. Some of the most expensive of the gymnasiums have cost over two hundred thousand dollars, and one of the athletic associations in New York has property valued at little less than a million dollars. The memberships of the gymnasiums range from fifty to three thousand each, and the number of individuals reached in the clubs and schools combined must aggregate several hundred thousand.

Some idea of the growth of interest in physical development in the United States, and the special directions it is taking may be inferred from the following lists of gymnasiums that have been built, reconstructed, or equipped, to the writer's knowledge, since the World's Fair in 1893.

Y. M. C. A. Gymnasiums	48
Private School Gymnasiums	37
College Gymnasiums	32
Athletic Club Gymnasiums	22
Normal School Gymnasiums	17
Public School Gymnasiums	7
Private Gymnasiums	15
Church Gymnasiums	16
Armory Gymnasiums	4
Foreign, Turnverein, Park, Sanitary, and Police Gymnasiums	7
Total	205

The past fifteen years may fairly be said to represent the era of gymnasium construction, and the next few years will witness a marked improvement in gymnasium intructions.

It is natural that individuals desiring to acquaint themselves more fully with the Harvard methods of physical training should be attracted to Cambridge as the centre from which the new movement has largely radiated. Harvard began to feel the demand for instructors in this branch of education soon after the completion of the Hemenway Gymnasium. Since 1887 there has been a considerable number of teachers from all parts of the country who have repaired to Cambridge during the summer months to study and practice the methods of physical training taught at the Harvard Summer School. In this department alone we have had since the school opened 584 different pupils, 206 of whom were men, and 378 women. Of these, 225 have come from New England, 192 from the Middle Eastern States, 111 from the Middle or Central States, 19 from the extreme Western States and Pacific slope, and 13 from England and the Provinces. In all, 43 different States and countries have been represented. Last summer the school had 90 pupils and 32 instructors. These pupils are for the most part engaged in teaching gymnastics or athletics in schools, colleges, universities, athletic clubs, Christian associations, sanitariums, hospitals, and asylums all over the country.

Many of these teachers who come to Cambridge during the college vacation time are accompanied by friends and relatives, who make the city their temporary camping ground, from which they make daily pilgrimages to the places of historical interest in this locality and the immediate vicinity. In addition to the gymnasium teachers who frequent our Summer School, we have army officers, school superintendents and principals, instructors and college professors in other departments, and many persons who take the course for their personal improvement. Thus it will be seen that Cambridge as the seat of the great university is not only building up hardy and vigorous bodies for its regular students, but through its courses for teachers is helping to advance the cause of physical education throughout the land.

The athletic organizations of the university have undoubtedly exerted a great influence over the youth of Cambridge. The regularity of living while in training for the great games and contests, the daily régime as to diet, sleep, bathing, etc., and the voluntary discipline under which the students place themselves in order to reach the coveted goal, are all great moral lessons in their way, and lessons which the boy often accepts

from his hero in the field rather than from his Sunday-school teacher. The stimulus afforded by the athletic life of the students is felt by all classes of Cambridge people, from the boy who crawls under the fence to see a game to the merchant prince who fills a palace car with his friends, and takes them a hundred miles to see a similar exhibition. Some of the best amateur and professional athletes of the country in various branches of sport have been natives or residents of Cambridge, and few will question the source of their aspirations.

In this connection it has often occurred to the writer that the city might avail itself to a greater extent of many of the advantages that the university extends to it. In June, 1890, the college authorities addressed the following communication to the City Council of Cambridge: —

"The President and Fellows of Harvard College hereby offer to the City of Cambridge for the use and enjoyment of the public, in common with the President and Fellows, all their grounds lying northerly from Harvard Street and easterly from North Avenue, for twelve weeks from the Monday following the last Wednesday in June, in each and every year, until further notice, provided that the city restore the grounds to the university at the expiration of the twelve weeks in the same condition, as nearly as may be, in which it received them."

This offer includes the use of the running track and baseball ground on Holmes Field, and some thirty or more tennis courts on Jarvis Field, and in a city where over a hundred teachers are being trained every year as instructors of gymnastics and athletics, and as directors of the physical training in the public schools of other cities, the acceptance of such an offer might prove of great utility.

The city need not hesitate on grounds of economy, as the amount of instruction necessary could be obtained for a small sum compared to what other cities pay, and the normal pupils who are brought to Cambridge, when preparing for the work, are desirous of opportunities to teach as a matter of experience. Similar service will be rendered as the city supplies itself with public parks and open-air playgrounds and gymnasiums like those in Boston, in accordance with the plans of the present Park Commission. With these additions to its fine natural facilities, Cambridge will be unsurpassed as a place of residence, not only for the rich and well-to-do, but also for the poor.

RADCLIFFE COLLEGE.

By ARTHUR GILMAN,

REGENT OF RADCLIFFE COLLEGE.

In the year 1643, the Rev. Thomas Weld, pastor of the church in Roxbury, received from "Lady Ann Moulson, of London, widow," the sum of one hundred pounds current English money, for Harvard College in New England.[1] The purpose which Lady Moulson had in making this gift is expressed in the formal receipt which with great business sagacity she exacted of Mr. Weld. That document has been preserved, and two consequences have followed. Lady Moulson's intention in contributing the money "out of Christian desire to advance good learning," was to bestow the income upon such poor "scholler" as the college might think best, though it was stipulated that in case any kinsman of hers were admitted to the college, the income should be his until he had attained his master's degree, even though it might at the time be awarded to another.

This fund, as Mr. Andrew McFarland Davis, who discovered it anew a few years ago, expresses it, established the "first scholarship in Harvard," and "unquestionably the oldest and most interesting foundation of the kind in this country." It is a scholarship in a college for men established by a woman. Sir Thomas Moulson (doubtless the husband of Lady Ann) was lord mayor of London in 1634, and was knighted that year. He was a man of generous deeds, and founded a "faire school" in Cheshire, the town in which he was born, "for the government, education, and instruction of youth in grammar and virtue." The fact that he shared the general interest that adventures in America had roused in England at that time, made it natural that the friends of Harvard College should turn to his widow when they needed money. Thus it was that the first

[1] See *A History of Harvard University*, by Benjamin Peirce, p. 12.

RADCLIFFE COLLEGE.

scholarship was established in the college. It lapsed for many a long year, but it has at last been reëstablished through the instrumentality of Mr. Davis.

Mr. Davis published his researches not far from the time that those interested in the education of women by the professors of Harvard College were seeking a name for their institution, and it was decided that the maiden name of the founder of the first scholarship in the parent institution was by far the most appropriate for a college which was to give collegiate instruction to her sex. The investigations of Mr. Davis had established, as well as it could be established under the circumstances, that Radcliffe was the name which the bride of Mr. Moulson had borne before her marriage, and therefore it was chosen for the new college. It was in 1894 that the legislature of Massachusetts passed an act establishing Radcliffe College, giving it wide powers in connection with Harvard College, the president and fellows of which were made responsible for the grade of its instruction and for the character of its degrees. At last the sarcasm of Swift, uttered more than a century before, had no application to Cambridge. "My Master," said he, "thought it monstrous in us to give the Females a different kind of Education from the Males." Harvard College no longer educated one half of the human being, but gave to both halves instruction of the same high grade and placed its seal upon degrees of the same value.

The idea of a college for women in Cambridge, which should share the advantages of the University, had been presented nearly thirty years before, by the Rev. Dr. William A. Stearns, for more than twenty years pastor of the Prospect Street Church. Dr. Stearns was a prominent member of the School Board, and in the Report for 1849 he left the following record of his far-seeing wisdom: —

"When we take into consideration that our noble University, with its professional and scientific schools, towers in the midst of us, and that the High School now forms a connecting link between this institution and the lower schools, we cannot but look with admiration upon the educational advantages of Cambridge.

"If private munificence would endow one additional school, in which our daughters could obtain advantages for improvement approximating those which our sons enjoy in the University, the opportunities for education would be unquestionably

superior in Cambridge to what can be found in any other spot on the globe."[1]

Radcliffe College did not, however, start up at a moment by the fiat of the legislature of the State. Its origin dates back some sixteen or more years. There had been long and anxious considerations of the method by which such a momentous result might be accomplished. Many people had before that date, even, been asking ("demanding" might be a better word) that girls should of right be admitted to equal privileges in the venerable university; but, though they did not know it, they demanded a revolution, and revolutions are more frequent in political affairs than in affairs educational. Sturdy "demands" fell unheeded at the closed doors of the university. It was left for milder methods to win success.

Parental solicitude showed the way.[2] A mother and a father were discussing the education of a daughter for whom it seemed to them that the ordinary curriculum of the schools for girls did not provide enough advanced work. The study of their particular problem led them to believe that they would accomplish what they wanted for their own child by making provision for the children of others. Thus it was that they formed a plan for giving parallel courses of instruction outside of Harvard College by the professors, which would make it possible for a woman to take all the work required for the bachelor's degree, if not to go further in collegiate work. This plan solved for the time the difficulties that had been foreseen by those who had wished for the greatest advantages for women in connection with Harvard College. The objections that had been raised, on the one hand, by those who wished the women to be admitted to the classes of men, or on the other, by those who wished that they might be taught in quite separate classes, were not valid against it. Yet women were to get the real Harvard education.

It was easier to make a plan, however, than it was to foresee how it would be received by the professors and by the corporation of the college. Doubts in the minds of the originators made them hesitate, and during the weeks that followed, which extended themselves into months, they discussed many ways of caring for the women who might be brought to Cambridge.

[1] The attention of the writer was called to this utterance by the present Superintendent of Schools, Mr. Francis Cogswell.

[2] See *Cambridge Sketches by Cambridge Authors*, Cambridge, 1896, p. 183.

Houses were looked at, and finally one was chosen as the best adapted to the uses of the proposed institution. It was on the side of the Common, almost under the "Washington Elm," not far from the home of Longfellow and opposite the birthplace of Holmes, a dwelling that Mr. Longfellow had been a frequent visitor in, and through the halls of which Dr. Holmes, as it was afterwards learned, had in his younger life often walked, if he had not indeed trodden more lively measures there. This house was of quiet dignity, and had for a long time been the home of the family of Judge Fay, wherefore it has since been known as Fay House. Behind it were inclosures in which the venerable Professor Sophocles cared for a collection of hens, for each egg of which he seemed to have a personal interest. Edward Everett had once lived in the building, and Professor McKean had his residence in it during his professorship from 1810 to 1818. It was not known generally then that in the front room in the second story on the north side of the front hall the Reverend Samuel Gilman, a relative of Judge Fay, had written the words of "Fair Harvard," to be used on the occasion of the two hundredth anniversary of Harvard College, — words that have been sung at every Commencement since that day. However, this is by the way. The house was occupied at the time, and there seemed no probability that it could ever be obtained for such a purpose as the anxious schemers had in mind. Nothing could be said, of course, of such a desire.

The simple plan that was destined to succeed was brought to the attention of the president of Harvard College by means of the following letter: —

5 Phillips Place,
Cambridge, *December* 23, 1878.

Dear Sir: — I am engaged in perfecting a plan which shall afford to women opportunities for carrying their studies systematically forward further than it is possible for them now to do in this country except possibly at Smith College.

My plan obliges me to obtain the services of certain of the professors, and I address you before approaching them in order to assure myself that I am correct in supposing that their relations to the university are such as to permit of their giving instruction to those who are not connected with it.

I propose to bring here such women as are able to pass an examination not less rigid than that now established for the admission of young

men, and to offer them a course of instruction which shall be a counterpart of that pursued by the men.

It is probable that a very small number of women will be found at first, but it will grow.

I am aware that some of the professors now give instruction to private pupils and teach elsewhere. If my plan prove a success it will relieve them from such irregular labor and give them a regular addition to their incomes.

It is, however, needless that I enlarge, or trouble you at any greater length.

I desire only to be assured that if I make approaches to any of the Faculty I shall be asking them for services that they can render or not, without in any way interfering with their first obligations to the university.

I am very truly yours,

ARTHUR GILMAN.

PRESIDENT ELIOT.

The writer of the letter had a few weeks previously explained the plan to a member of the faculty, Professor James B. Greenough, because he was a neighbor, and also because he was one of three professors who had just at that time given their consent to an application from a young woman for instruction of the college grade. The favorable reception of the scheme by Professor Greenough was immediate and enthusiastic, and the permission of President Eliot was also given at once. The president called at my home the morning after the date of the letter, and expressed willingness that the experiment should be tried, for all felt that it *was* an experiment to graft the education of women upon the stock of a university nearly two centuries and a half of age. Mr. Eliot, like many others, thought it well worth effort. He was told that it was to be tried by a few ladies who were quite unorganized, so that if failure should be the result, Harvard would not be responsible, though if success should crown the effort, Harvard should have the glory. Seven ladies constituted the "committee," as it was sometimes called, though, as it was not a committee in the strict sense of the word, some difficulty was found in designating the body. Two of the ladies were unmarried, and two who had been chosen by natural selection were married. It was determined to choose three more married ladies and thus complete the number of seven. They were, in the order of coming into the scheme, Mrs. Gilman, Mrs. Greenough, Miss Longfellow, Miss Horsford, Mrs. Cooke, Mrs. Agassiz, and Mrs. Gurney.

This bare statement of the first steps in the organization gives no intimation of the long consideration that had been devoted to the subject by Mr. and Mrs. Gilman, of the hesitation with which the presentation of the matter to Professor Greenough had been made, nor of the anxiety which they had had lest he might not favor it. After the matter had been approved by one professor, it was laid before many others, and they made no delay in giving their allegiance to it. This was, in 1878. Finally, in February, 1879, on Washington's Birthday, the first announcement was made, by a circular headed "Private Collegiate Instruction for Women." This was signed by the seven ladies, and all correspondence was directed to be sent to the secretary. The statements in the circular were, of necessity, vague, but in many quarters it was at once assumed that Harvard College had opened its doors to women, and letters came from different parts of the country based upon this assumption. The substance of the circular had been telegraphed to the newspapers through the usual agencies, and special articles had been printed in the editorial columns of the "Boston Advertiser," and in daily and weekly papers in New York. The circular was worded as follows: —

PRIVATE COLLEGIATE INSTRUCTION FOR WOMEN.

The ladies whose names are appended below are authorized to say that a number of Professors and other Instructors in Harvard College have consented to give private tuition to properly qualified young women who desire to pursue advanced studies in Cambridge. Other Professors whose occupations prevent them from giving such tuition are willing to assist young women by advice and by lectures. No instruction will be provided of a lower grade than that given in Harvard College.

The expense of instruction in as many branches as a student can profitably pursue at once will depend upon the numbers in the several courses, but it will probably not exceed four hundred dollars a year, and may be as low as two hundred and fifty. It is hoped, however, that endowments may hereafter be procured which will materially reduce this expense.

Pupils who show upon examination that they have satisfactorily pursued any courses of study under this scheme will receive certificates to that effect, signed by their Instructors. It is hoped, nevertheless, that the greater number will pursue a four years' course of study, in which case the certificates for the different branches of study will be

merged in one, which will be signed by all the Instructors and will certify to the whole course.

The ladies will see that the students secure suitable lodgings, and will assist them with advice and other friendly offices.

Information as to the qualifications required, with the names of the Instructors in any branch, may be obtained upon application to any one of the ladies, or to their Secretary, Mr. ARTHUR GILMAN, 5 Phillips Place.

Mrs. LOUIS AGASSIZ	*Quincy Street.*
Mrs. E. W. GURNEY	*Fayerweather Street.*
Mrs. J. P. COOKE	*Quincy Street.*
Mrs. J. B. GREENOUGH	*Appian Way.*
Mrs. ARTHUR GILMAN	*Phillips Place.*
Miss ALICE M. LONGFELLOW	*Brattle Street.*
Miss LILIAN HORSFORD	*Craigie Street.*

CAMBRIDGE, MASS., *February* 22, 1879.

Other circulars followed, and in September the examinations for admission were held in a building numbered six on Appian Way, the family in which had with great generosity rented rooms for the purpose. The papers submitted to the candidates were the same that Harvard College used at the same hours for its young men, and thus the same standards were set for both sexes. The work in the lecture-room began at once, and it has continued from that time to this. Twenty-seven women began the work of the first year, but two were obliged to give it up before the year closed, so that in reality the classes counted but twenty-five. That number has increased until now 354 are enrolled on the lists of Radcliffe College.

Every year the writer of these lines has made a report to the corporation. In the report for the fourth year the following words were used: —

"Too great stress can hardly be laid upon the value of the highest education for women in a land where the majority of the teachers in all the schools from the Atlantic to the Pacific and from Maine to Texas are women. In our own State, eighty-seven per cent. of the teachers (according to the latest report of the Secretary of the Board of Education) are women. . . . It does not take a very careful study of the colleges of New England, less than a score, to show that the ratio between the number which in a direct way give assistance to those women who aim to qualify themselves for high educational positions and those which do not, is quite the reverse of that existing between the number of women teachers and the grand total occupying

places in the profession. In this fact is found one of the reasons for the low rate of pay with which women generally are obliged to satisfy themselves. As the opportunities for the higher education within the reach of women increase, the number of them able to compete successfully for important and remunerative positions will be enlarged."

In the same report the following among other reasons for the writer's interest in the work that was under discussion was given: —

"Women seeking opportunities for the higher education naturally prefer to find them at an institution which is allied at least with one established and carried on for men, because they think that there they will be in the line of progress. They feel that on the perfecting of methods and the best application of educational forces the entire body of instructors in such an institution, as well as in all others like it, is united. Present them a course of instruction different from that offered to men, and they do not eye it askance because they think it not so good, but because it is probably just out of the line upon which progress and improvement are to be expected. This is one of the reasons why thoughtful women have less confidence in courses of instruction specially prepared for them than they have in that one upon which the wisdom of men has for generations been working, and is still working."

It is not, therefore, because the present opportunities and courses of study of Harvard College are thought the best that can be devised for women, that women come in increasing numbers to share them, but because in their estimation they represent the highest stage of present educational progress in our land. The intellectual character of the women who came in the early days differed little from that of those who have followed them. It happens that we have on record the views of a number of the professors on this important subject. Professor John Williams White (Greek) wrote, "I have met uniformly great earnestness, persistent industry, and ability of high order. It is an inspiration to teach girls who are so bright and so willing." Professor Louis Dyer (Greek), now of Oxford, England, said: "I have been most struck this year in my philosophical course — undertaken in the absence of Professor Goodwin — by the entire absence of intellectual indifferentism on the part of the young ladies. Their questions have been most intelligent, and, where the first answer did not satisfy them, persistent, — an encouraging sign that they are unwilling

to content themselves with words." Professor Byerly (mathematics) said: "I have found the spirit, industry, and ability of the girls admirable; indeed, the average has invariably been higher in my classes in the 'Annex' than in my classes in the college, in spite of the fact that the college classes, since they are in elective courses in a subject of acknowledged difficulty, have been necessarily formed of picked men." Of the classes in philosophy, Professor Palmer wrote: "The four classes that I have taught there have in each case shown a scholarship somewhat higher than the parallel class in college. . . . The girls being keener questioners, I have usually found myself obliged to treat my subject more fundamentally with them than when I have discussed it with my college classes." Other professors of those early days wrote in equally strong terms with regard to the students, and one of the students said of the advantages of the Annex, "I have become convinced, in my own mind at least, that there is no institution for women in our country which affords so finished and so satisfactory an education as is offered in Cambridge. In the first place, the town, pervaded with an atmosphere of study and culture, and rich in its associations, seems to me an important factor in a liberal education, as well as the home and social life which the students enjoy there, a life which is impossible in connection with a dormitory system." Thus the teachers appreciated the students, and the students appreciated highly the advantages that were offered them.

In this, the first stage of the work, the seven ladies and their secretary cared for the business affairs of the enterprise, while a body of the professors which had Professor Greenough as chairman looked after the courses of study, and recommended the candidates for the certificates. Degrees were not given to those who had accomplished the work for which degrees were awarded in Harvard College, but certificates, which stated the facts. It may be said by way of anticipation, that these certificates have been exchanged for diplomas since Radcliffe College was created by the legislature. The secretary was the only officer on the ground at that time. He carried out the votes of the "Advisory Board" of professors and of the lady-managers, besides attending to all the business. To him all applications were addressed, and he wrote all the letters.

As the numbers increased, the quarters at first engaged

at No. 6 Appian Way proved too small, and other rooms were rented. All that could be spared by the family were first taken, and then a room was fitted up in a house across the street as a laboratory. Then another room was taken in the house No. 5 Garden Street as a "library." Later, another room was taken in this house, — a delightful room, — in which the students sat about in easy chairs and listened to learned lectures, or took notes on the great tables with which the room was well supplied. It was in those halcyon days that Mr. John Holmes, who occupied the house numbered 5 Appian Way, had pity on the young aspirants for collegiate honors as they took their admission examinations. and sent over the way certain refreshments which bore a likeness to those which the Council of Radcliffe is in these later days wont to supply from the funds of the treasury. On one occasion a guardian angel in the form of a mortal woman of kindly heart came day by day with refreshments for two of the candidates under her special charge, and was found by the secretary sitting on a hard bench in the Common near by, suffering the hottest rays of the July sun, thinking that her swelterings were naught, if only the girls could make clear their title to a Harvard education! Many a tale could be told of those primitive days. The "Harvard education" was won.

When all the spare rooms on Appian Way had been exhausted, a building became a necessity, and then it was that Miss Fay of her own accord called upon Mrs. Gilman to ask if the Annex would not buy her homestead for its future quarters. The family which had so long occupied the old home had gradually left it, and now it was at the disposition of the "experiment." The hopes that we had been almost afraid to encourage in the days before we were daring enough to even speak of the plan were ready to be realized. It was with feelings that can be imagined better than they can be written or printed that Mrs. Gilman reported the good news. The offer was brought before the "Corporation," for in anticipation of the need of real estate the managers had become a corporation, and the Fay House with its surrounding land was purchased. Adjoining land has since been added, and the estate now comprises more than twice as many square feet as it then did.

The first stage in the history that we are following ended at the time that Fay House was purchased, when it had become a

necessity to begin to raise a fund for the endowment of the institution. The ladies and certain others who at the time became associated with them became a corporation under the general statutes of Massachusetts, October 16, 1882, with the title "The Society for the Collegiate Instruction of Women," though this inconvenient name was seldom used, the nickname, "Harvard Annex," invented by a student of the college, it is said, being made to serve instead, in all except formal documents and official utterances. The change in title, however, caused no change in the work or in the progress. Things went on as usual, though every year it was evident that the new quarters would not continue to suffice for the growing classes. Twice Fay House has been enlarged. At first the old wing in the rear was taken off and an addition made in that direction which increased the capacity of the building twofold. Again an auditorium was made on the Mason Street side with rooms above and below it, for lecture-rooms and other purposes. These additions have been so skillfully designed that visitors are not able to find the line that divides the new from the old, and indeed, they often take the staircase for a construction of the "colonial" period, though it is a creation upon which the minds and taste of the entire corporation and of the architects were brought to bear but a few years ago. A notable improvement in the premises was the addition of the third story. Miss Fay had changed the roof some years before, but now all of her work was taken away, and a new floor was made which contains the library, a room for the elegance and convenience of which the corporation is indebted to the generosity of Miss Longfellow. It is the most charming portion of the edifice now.

The third stage in the work is marked by the incorporation of the managers as Radcliffe College, which was done by a special act of the legislature, the signature of the governor having been affixed to it March 23, 1894. This act was the subject of much deliberation both within and without the halls of legislation. It was the result of long and careful consideration on the part of the President and Fellows of Harvard College and of the Overseers, as well as the managers of the Society for the Collegiate Instruction of Women. It was discussed no less by others interested in the welfare of women in Boston and New York, and many opinions were expressed both

for and against the plan, but after a long and careful hearing on the part of the Committee of the Legislature on Education the step was taken with unanimity, and as one of the members of the committee remarked, both sides seemed to be pleased with the result.

The growth of the work is perhaps shown better in figures than in any other way. The following table exhibits the number of students each year from the first, with the receipts from tuition-fees and the expenses for salaries. The accounts for the current year are, of course, not made up, but the number of students is already over 350, and the other figures will show an increase over all previous years.

Year.	No of Students.	Fees.	Salaries.
1879–80	25	$3,725.00	$5,171.00
1880–81	47	4,786.25	6,363.32
1881–82	38	5,017.50	6,549.56
1882–83	41	3,899.38	7,778.48
1883–84	49	5,581.25	7,950.20
1884–85	55	7,193.75	8,725.00
1885–86	73	9,661.25	9,400.00
1886–87	90	12,113.75	13,525.00
1887–88	103	13,475.00	13,064.00
1888–89	115	15,460.00	14,575.00
1889–90	142	20,018.32	18,925.00
1890–91	174	25,035.00	21,700.00
1891–92	241	34,010.00	27,686.00
1892–93	263	37,240.00	31,929.00
1893–94	255	42,845.00	34,112.50
1894–95	284	49,626.83	47,667.00

In writing of her experiences in America, Dr. Anna Kuhnow, of Leipsic, speaks of the "enviable position of women" among us, and adds that she missed "the feeble health with which they are so widely credited in Germany. I may safely assert," she continues, "that among these college students were the healthiest women, both physically and mentally, that I have ever met." This emphatic testimony is supported by the experience of Radcliffe College.

Our record closes as the third stage in the history of Radcliffe opens. It is an interesting point. It finds the college strong in the affections of a body of graduates that any college might well be proud of, many of whom have already won for

themselves honors in the academic world; it is sustained by the body of ladies (with the loss of two, and with some additions) which originally became responsible for it; many of the professors who began with the work are yet on the list of teachers, and to them many have been added; in a large sense the original end has been attained, for Harvard College is now responsible for it, and its diplomas bear upon them the great seal of the older institution and the signature of its president. Radcliffe College has the authority and the power, with the powerful aid of Harvard College, to accomplish all that can be attained for the best education of women. It has the advantage of the experience and the traditions of two centuries and a half.

THE PUBLIC SCHOOLS OF CAMBRIDGE.

By FRANK A. HILL,

SECRETARY OF THE MASSACHUSETTS BOARD OF EDUCATION.

THE scope of this article does not permit a detailed history of the public schools of Cambridge. It is limited, therefore, to the following themes: —

1. The "faire Grammar Schoole" and its heirs, with some account of the development of public education for girls.
2. The Cambridge high schools.
3. The schools of Cambridge fifty years ago.
4. The public school system of Cambridge to-day.

"THE FAIRE GRAMMAR SCHOOLE."

Could the colonists have foreseen the great things that were to issue from their humble school beginnings, the record of those beginnings would not be the scant and incomplete story that has come down to us. It is not until 1643 that we find any authentic account of a school in Cambridge. In that year the curtain suddenly rises on Elijah Corlett's "faire Grammar Schoole," by the side of the college.

There is abundant reason for believing, however, that Cambridge was not without a school for some years prior to this date. We catch a glimpse of the Boston Latin School as early as 1635, in the pathetic record of the town that "our brother Philemon Pormort shall be intreated" to become its master. Salem, Charlestown, and Dorchester also had schools before 1640.

The conditions for the early existence of a school were as favorable in Cambridge as elsewhere in the colony. When the town was founded in 1631, the intention was to make it the fortified political centre of the colony. It speedily became instead an important residential and intellectual centre. A writer in 1637 pictures it with artless exaggeration as one of the "neat-

est towns" in New England, with many "fair structures" and "handsome contrived streets." The inhabitants, "most of them," he adds, were "very rich." We know from other sources that many of them had scholarly tastes. Moreover, Harvard College was founded in 1636, opened in 1638, and its first class of nine young men was graduated in 1642. In the work of fitting boys for Harvard, Cambridge would naturally have had an early and prominent share. It chimes in with this theory of an earlier school that Mr. Corlett, when we first hear of him in 1643, was already in the possession of an established reputation as a teacher; he "had very well approved himself for his abilities, dexterity and painfulnesse." His schoolhouse — the first one especially built for him in 1648, not by the town, but by President Dunster and Edward Goffe — was on the westerly side of Holyoke Street, between Harvard and Mount Auburn streets. At one time there were in his "lattin schoole" five Indian youths fitting for college.

In 1642 the General Court made it the duty of Cambridge as of other towns to insist that parents and masters should properly educate their children, and to fine them if they neglected to do so. In 1647 the Court ordered the towns to appoint teachers for the children, whose wages should be paid either by the parents or masters of such children, or by the inhabitants in general, as the majority "of those who order the prudentials of the town" should direct. Mr. Corlett had to look to the parents for his pay, but his fees from this source were so meagre that the town from time to time came to his rescue. Once it sold some land for his benefit, without prejudice "to the cow common;" occasionally it levied a tax of a few pounds "for his encouragement;" and in 1684, when he had grown old in the service, — it was only two years before his death, — it voted to pay him annually twenty pounds so long as he should continue schoolmaster "in this place." The General Court made similar grants for Mr. Corlett's relief, so that his heart was touched, as he himself once quaintly said, by their "remarkable gentlenes and very tender dealings with a sad, afflicted, weake man, inconsiderate and rash sometimes."

The early grammar school which was required by law of 1647 in every town of one hundred families was not a grammar school in the modern sense. It was Latin grammar and not English

ENGLISH HIGH SCHOOL.

that it taught. In brief, it was a college fitting school. While it was designed by law for "youth," it was exclusively a boys' school. Girls did not attend it for the simple reason that the idea of a girl's fitting for college, to say nothing of her going there, would have shocked the colonists. Indeed, girls did not usually attend the early reading and writing schools. To be sure, the law of 1647 was explicit, that after "the Lord hath increased" a town to fifty householders, "one within their towne" should be appointed "to teach all such children as shall resort to him to write and reade;" but the girls did not generally resort to him.

Boston, for instance, established reading and writing schools in 1682, the Latin School being the only public school in town down to that time. There was, however, no formal provision for girls in such schools until October 19, 1789, when the town voted that "children of both sexes" should be taught in the reading and writing schools of their newly reorganized system. Even then and for forty years thereafter Boston girls were excluded from these schools from October to April; and when finally, in 1828, they were graciously permitted to attend school, like the boys, all the year round, the policy of separating the sexes was begun, — a policy that is in vogue to-day in many grammar schools in the older sections of the city as well as in the four central high schools.

Doubtless there were girls as well as boys in the early "dame schools." These were private schools that received children of the kindergarten age, although they were far from being conducted in the kindergarten spirit. In the old cemetery near Harvard Square lies the body of one of these useful dames, Mrs. Joanna Winship, who died in 1707. The tombstone of slate is solemnly decorated with crossbones, coffins, and a winged head, and bears the following quaint inscription, which is correct in point of fact and sound in metre, whatever may be thought of its poetic fire: —

> "This good school dame
> No longer school must keep,
> Which gives us cause
> For children's sake to weep."

If girls received other education than that of the dame schools in the colonial or in the provincial period, it was usually in private schools of a slightly higher grade or at home, or they

picked it up in such contact as they had with the world. In the latter part of the seventeenth century there was no education for women in England. Ladies highly born and bred, and naturally quick witted, could scarcely write a line without solecisms and faults in spelling that would "shame a charity girl." "Our forefathers were wise," said Lady Clarendon in 1685, "in not giving their daughters the education of writing." "I should be very much ashamed," she added, "that I ever learned Latin, if I had not forgotten it." The wife of President John Adams, born in 1744, said that female education in her day, even in the best families, seldom went beyond writing and arithmetic, and that "it was fashionable to ridicule female learning."

Girls worked their way into the public schools as pupils very much as women worked their way into the same schools as teachers. At first, the public school teachers were men exclusively. Towards the latter part of the last century the town histories of Massachusetts give us glimpses of women taking charge of schools here and there, in a sporadic way, at first during the summer months, and then all the year round. If women were to teach, it was meet that girls should study. Thus began the slowly rising tide of sentiment that women as well as men had minds to train and to use in a serious sense, — a tide that is obviously nearing its flood in Cambridge, since we have in our midst to-day — our fathers would have stood amazed at the prospect — women training boys and girls for college, and a college wherein women are trained to do it.

Corlett's schoolhouse on Holyoke Street, built by private enterprise, came into possession of the town in 1660. In 1670 the town built a second schoolhouse, and in 1700 a third one, on the same site. The fourth building was erected on Garden Street, a little west of Appian Way, in 1769, and the fifth followed it on the same spot in 1832. In 1852 the sixth building was erected on Brattle Street, and is occupied to-day by the Washington Grammar School, — in a sense, the lineal descendant of the "faire Grammar Schoole" of 1643.

It is a curious history, — this transformation of a grammar school of the colonial type to a grammar school of the modern type. The dates of the nominal transformation may be assigned to the years 1845 and 1848, the change of 1845 being followed by a reaction, and the change for a finality taking place three years

later. The modification in character, however, had been going on for many years. Although the records give us a glimpse of an "English schoolmaster" as early as 1680 "with at present but three scholars," it is only a glimpse. There was a time when with the boys studying classical subjects there began to be joined other boys who did not work beyond the "three R's." Nearer our own time these non-preparatory boys were joined by girls, some of whom still later had the audacity to venture upon Latin and even Greek in the college classes of the school. It was doubtless such a school as Edward Everett described in his address at the dedication of the Cambridge High School building, June 27, 1848. He remembered "as yesterday" (Everett was born in Dorchester in 1794) his first going to the village school, how he trudged along at the "valiant age of three," one hand grasping his elder sister's apron, and the other his little blue paper-covered primer, and how, when a traveler, stranger, or person in years passed by, they were wont to draw up by the roadside and greet him, — the girls with a courtesy and the boys with a bow. "A little reading, writing, and ciphering," added Everett, "a very little grammar, and for those destined for college a little Latin and Greek, very indifferently taught, were all we got at a common town school in my day."

The school that has come down to us from Elijah Corlett's was undoubtedly a grammar school for a long time in a double sense, — an English grammar school for Old Cambridge and a Latin grammar school for all Cambridge; and in popular allusions it was spoken of as a grammar school sometimes in one sense and sometimes in the other. That these were the facts in 1832 appears from this rule of the school committee adopted December 7 of that year: "In addition to these studies (certain English branches mentioned in another rule), the instructor in Grammar School No. 1 (the Latin Grammar School on Garden Street) will teach to any children belonging to the town the rudiments of the Latin and Greek languages, and the studies generally preparatory for admission to college." Moreover, while the children of the colonial public schools were practically of one sex, it had come to be clearly understood long before 1832 that the word "children" included both sexes, that the public schools, in short, were as much for girls as for boys; so that we have in this rule of 1832 an official recogni-

tion of what had been gradually coming into practice in Cambridge, — co-education in high school subjects.

Years before this date ambitious girls might have been found here and there, more frequently in private schools than in public, working close up to the college doors, although it was hopeless for them to enter there, like Margaret Fuller, of Cambridgeport, subsequently Countess Ossoli, who in 1816, at the age of six, was studying Latin with her father, and whom we see again nine years later reciting Greek in the "C. P. P. G. S.," that is, in the Cambridge Port Private Grammar School, — a school for classical instruction where Richard Henry Dana and Oliver Wendell Holmes were among her schoolmates. Here was co-education in secondary subjects, though not in a public school, as early as 1825. In the same year a high school for girls was opened in Boston. Its very success was its defeat. It was crowded to overflowing, and scores were rejected. The citizens became alarmed. The threatened expense was enormous. Moreover, there were those who feared that girls in humble life would be educated beyond their station! In less than two years, in the flush of prosperity, the school was voted out of existence, not to be revived for a quarter of a century. Bishop Clark, of Rhode Island, informs me that the Lowell High School, which was founded in 1831, had girls as well as boys in its membership from the beginning. He was the first principal of the school, and speaks, therefore, with authority. New Bedford opened a high school for both sexes earlier still. Of the fourteen high schools reported to be in existence in 1838 in Massachusetts, there were several where co-education had been the rule for years. The higher education of girls was in the air. It was as much a factor in the conditions that led to the development of high schools as a product of that development.

It is not, therefore, so very surprising after all, — the metamorphosis that came to the Latin Grammar School on Garden Street, Corlett's old school, in 1840, for in that year it was divided, the boys remaining on Garden Street and the girls going to the Auburn School, in School Court, now known as Farwell Place, the schoolhouse for which was built in 1838. The girls were placed under a classical instructor, but not the boys, "the girls being more advanced than many of the boys;" and this school during its brief existence was known as the

Auburn Female High School, although there were also in it misses of lower grades.

From 1840 to 1845 the girls of Old Cambridge fared better than the boys so far as secondary instruction was concerned; but the citizens chafing somewhat under the disadvantages of the boys, the Auburn School in 1845 was made a high school for both sexes, and the Garden Street School, known thereafter as the Washington School, a grammar school, for the first time in the exclusively modern sense, for both sexes. There was some opposition to bringing the sexes together in this way, but Rev. William A. Stearns, chairman of the school committee and subsequently president of Amherst College, voiced the unanimous opinion of the committee that it was wise to do so. "In all the other schools of the town," he said, "boys and girls meet together every day without injury, we believe, to the morals of either." The evils feared, if they once existed, had "long since been entirely banished from them." "Children in our high and grammar schools [those of Cambridgeport and East Cambridge] are as decidedly delicate and respectful in their treatment of each other as any similar classes in our adult population." Nevertheless, there were parents who withdrew their daughters from the Auburn High School and the Washington Grammar School, whereupon, in 1846, for reasons of economy, the two schools were united in the Auburn building under the name of the "Auburn Grammar and High School." Thus Elijah Corlett's school was once more under one roof, — partly a grammar school in the old sense, and partly a grammar school in the new sense.

In 1848, there was another and final parting of company, the high school classes being transferred to the central high school, in Cambridgeport, and the other classes remaining under the name of the Auburn Grammar School. In 1851, the Auburn building and the Auburn School entered upon a period of travel, the building going first to North Avenue, and finally to Concord Avenue, where it stands to-day as the Dunster School, the school meanwhile moving into Lyceum Hall, then into its old building again as it stood rejuvenated on North Avenue, then into the vestry of the Baptist church that once stood near the present college gymnasium, and finally, in June, 1852, into its new quarters on Brattle Street, where it became known once more as the Washington Grammar School,

and where it has remained to this day. Thus at length came to rest the perturbed spirit of Elijah Corlett's transformed, dismembered, and wandering school, not quite sure but it ought to claim a burial urn in the Cambridge High School, or in one or the other of its branches, but content, on the whole, to be known as the loyal ancestral shade of the Washington Grammar School. This is the reason why a brownstone tablet in the outer wall of the Washington building tells the reader that that school is the lineal descendant of the "faire Grammar Schoole" of 1643.

THE CAMBRIDGE HIGH SCHOOLS.

In 1838 a high school was organized in Cambridgeport for the entire town, in a building erected for it at the corner of Broadway and Winsor Street. Its first teacher was Edward F. Barnes. This school, so I am informed by John Livermore, who was a member of the school committee as early as 1843, had girls as well as boys from its start. It was not convenient of access either for East Cambridge or for Old Cambridge. Moreover, it did not stand well in the graces of Old Cambridge. For two centuries the classical instruction of the town had had its home there under the eaves of the college. Corlett's tree was not to be pulled up by the roots and set out in a new and distant part of the town without a protest. Accordingly, the high school of 1838, although it was the town high school for five years, drew its pupils mainly from Cambridgeport.

In 1843, the Otis schoolhouse, "quite a magnificent structure," was completed for East Cambridge, and on its upper floor was opened a high and grammar school with Justin A. Jacobs and Miss Almira Seymour as teachers. At the same time, Richard T. Austin and Miss L. M. Damon were teachers in the "Female High School" of Old Cambridge. Thus, in 1843, the three sections or wards of the town had each its high school, with a man for its principal and a woman to assist him. The high school of Ward One, as we have seen, was for girls. Inasmuch as it also contained girls of grammar school grades, it was as often called a high and grammar school as a high school. The high schools of Wards Two and Three were for both sexes, that of Ward Two being the only one in the town not associated with grammar school pupils.

In 1847, the plan of uniting the high school pupils of the

three wards was revived. A high school for the city (Cambridge had ceased to be a town May 4, 1846) was opened October 4 of that year in the high school building of Cambridgeport, with Elbridge Smith as master and Miss N. W. Manning as assistant. Seventy-four pupils were admitted, all but one from the "Port" and the "Point." The single exception was the mayor's daughter from Old Cambridge. Members of the city council from Old Cambridge had said in substance to their associates, "Place your high school where you choose, we shall make no use of it." This attitude, however, was not long maintained. In June, 1848, the high school of Old Cambridge was closed, and in the following September its pupils took their seats with the high school pupils of the rest of the city. Thus that classical instruction which began in "the faire Grammar Schoole" more than two hundred years before, after many vicissitudes and transformations, was finally switched off from the lineal successor of that school, and merged in a high school that had come into existence before this diversion took place. This was the beginning of the Cambridge High School, in the sense of its being in reality the high school for the entire city. The ideas that had long and fruitlessly sought to make the high school organized in Cambridgeport in 1838 a high school for the town rather than for Ward Two had at last triumphed. One happy result of the triumph was the reduction of sectional jealousies and the growth of more sympathetic relations between the somewhat isolated villages that made up the city of that time. The school started under propitious skies. It began in a new building erected for it at the corner of Amory and Summer streets, Edward Everett, president of Harvard College, giving the dedicatory address, — an eloquent and inspiring effort. There were at once overflowing numbers. The school committee, with stringent standards of admission in mind, had asked for a building for 60 pupils. The Common Council, taking a larger look at the future, provided for 108. The public, heedless of them both, furnished at the July examination for admission 107 pupils, 41 boys and 66 girls, and in September, when the school opened, 31 more.

In 1864 the high school moved into its third home at the corner of Broadway and Fayette Street, — at that time one of the best equipped and most elegant schoolhouses in the State.

In 1886, the high school was divided, its classical depart-

ment becoming the Cambridge Latin School, and its remaining departments the Cambridge English High School. The Latin School was transferred to the Lee Street church, which had been fitted up to receive it. The English High School retained the old building. The separation took place March 1, 1886, both schools continuing in charge of William F. Bradbury until September of that year, when Frank A. Hill entered upon his duties as head master of the English High School, Mr. Bradbury continuing as head master of the Latin School.

In 1892 the English High School moved into its present commodious and beautiful building on Broadway, between Trowbridge and Ellery streets. This structure was erected on land presented to the city by Frederick H. Rindge and at a cost to the city of $230,000.

In September, 1888, the Cambridge Manual Training School for Boys, founded and maintained by Mr. Rindge, and placed under the superintendence of Harry Ellis, was opened to the boys of the English High School.

As soon as the building at the corner of Broadway and Fayette Street was vacated by the English High School, it was remodeled and put into excellent order for the Latin School, which took possession of it September 6, 1892. The growth of the school has made it necessary to plan a new building for it, to cost not far from $250,000, and to stand on land adjacent to the English High School building and the Public Library.

Upon the completion of this building, Cambridge will be able to point to a decade of high school development unparalleled in the history of the Commonwealth, — a decade at whose beginning we see two high schools chafing under cramped conditions, without a suspicion of interest in a certain pasture not far away in Old Cambridge, where the cows were wont to feed in summer and the boys and girls to skate in winter, but at whose end we find the pasture transformed to a park, and the park dignified and adorned by the most complete and varied group of educational structures in Massachusetts. Grounds, buildings, and improvements will represent, all told, an investment of nearly a million dollars, — in part the present and prospective gifts of a gentleman who thus munificently expresses his love for his old home, and in part the munificent response of the city to these gifts and to her sense of high regard for the welfare of her youth.

The close of the decade, it may be quietly added in passing, will also see Old Cambridge once more in possession of that secondary instruction whose transfer from her borders she so strenuously opposed from 1838 to 1848.

It is worthy of note that since 1886 the two high schools have each doubled in number, neither checking in any way the progress of the other.

CAMBRIDGE SCHOOLS FIFTY YEARS AGO.

It is idle to claim that schools are ever free from faults or that they are ever as good as they can be. Perfect schools require the impossible conjunction of innumerable happy conditions in innumerable cases. The absence of one of these conditions in a single case means, to that extent, friction, estrangement, soreness, or failure. Among these conditions are a wise and generous public attitude towards schools, suitable buildings and equipment, able, tactful, and inspiring teachers, intelligent and helpful parents, well-born and well-bred children, concert of views as to the aims, subjects, and methods of education, loyal and steady devotion from all parties to the work of the school, and so on. More of these conditions are realized in Cambridge to-day than fifty years ago. With admitted room for improvement, Cambridge schools offer to-day as fine facilities for a sound education as any in the Commonwealth or in the country. Much of our present development is the fruit of what was said and done fifty years ago.

Dipping at once into the record of the past and following no order but the suggestions of that record, we learn from the school committee of 1843 that show exhibitions are injurious, as striving for appearances more than for realities, for display more than for usefulness. In the same year teachers' meetings are held weekly, and members of the committee are sometimes present. Improvements in one school thus become known to the other schools, and errors in teaching are less likely to become chronic. Corporal punishment is reported as diminishing. One master has gone so far as to lay it aside altogether, — a seemingly dangerous experiment, — but the order has improved, the pupils are more attached to their teacher, and greater progress in study has been made. More attention is paid to reading than formerly. It is important that good habits of reading should be formed in the primary schools.

The duty of parents to converse correctly with their children, to listen to their reading, to make the fireside the ally of the schoolroom, is emphasized. The attendance of children at school is very irregular. It has been improved somewhat by requiring children to bring excuses from their parents before being allowed to take their seats. Such works as Sparks's Lives of Washington and Franklin should be placed in school libraries, — an invaluable substitute for juvenile romances and cheap newspaper novels.

During the year 1843, it appears that the school committee made five hundred and eighty-three visits to the schools. The appropriation for schools was $8,500. The expense of the schools is indeed great, say the committee, but great good is received in return. There is no sect or party arrayed against them. Families come to Cambridge because of her schools.

From the report of 1844, it appears that the schools are classified into five grades or kinds, — alphabet, primary, middle, grammar, and high. In the high and grammar schools, the cost of instruction per pupil was $9.88 for the year; in the middle schools, $2.96; and in the schools below, $2.81.

With all their painstaking and in spite of the admonition of the town, the committee of 1843 overran their appropriation by $263. "'Cut your coat according to your cloth' is indeed a good general maxim; but it is certainly better to get a little more cloth than to spoil the garment."

It is interesting in this fiftieth year of Cambridge as a city to note a certain tendency among many intelligent people to compare the schooling of the present unfavorably with that of the past. Admitting the real superiority of the old schooling in some points or in some localities, for all change from the past is not necessarily for the better, we are nevertheless sure that some of the alleged superiority exists only in the minds of those who unwittingly carry into their maturity the sincere but poor little school judgments of their childhood or who, in an equally artless way, project the attainments of their maturity into the schools of their childhood, as if, forsooth, such attainments were then and there fully fledged. How common the remark of the critics that our pupils to-day are poorer spellers than were those of fifty years ago! But note the plaint of the school committee of 1844: "A few of the schools excel in reading, while most of them, both in reading and spelling, are lamentably deficient.

. . . There is an unaccountable reluctance on the part of both teachers and scholars to use the spelling-book, — a book which, in the days of their fathers, was ever acknowledged '*the only sure guide to the English Tongue.*' . . . The committee are unanimously of opinion that the attainments in this branch are altogether inferior to what was witnessed in our schools twenty or thirty years ago."

The committee of 1844 protest also against many studies, causing superficial knowledge, and increasing not only the expenses of education, but habits of inaccuracy, slackness, and inattention, — a kind of protest with which we are familiar in our time, the smoke, as it were, of the irrepressible conflict between two ideas, that of thoroughness and that of breadth, each educationally sound, although either pushed to extremes crowds the other to the wall.

The crying need of the schools, say the committee of 1844, is good teachers. The qualities wanted in them are of a high order, — an assemblage of attainments and virtues seldom found in one person. In case a teacher fails, however worthy or needy he may be, it is better that he should suffer through loss of position than that a whole school through him should waste or lose its golden days. The evils of irregularity in 1844 are very great, it not being unusual for a quarter of the pupils to be absent from school at one time. Collisions between parents and teachers in matters of discipline have been comparatively rare. It is hoped that teachers will continue to have the countenance of all good men in their endeavors to banish lying, obscenity, profanity, and every other vice and impropriety from the schools.

In 1846, it appears that many schools are too large, and that teachers cannot hear as many lessons as the scholars are able to learn. Hence idleness, lack of quiet, and lack of discipline. Eighty or ninety pupils tax a teacher unduly.

The schoolhouses this year received a thorough overhauling from the committee. One schoolhouse is well built, but has no ventilation. Another is "truly a noble building," but not without defects, for although one room is well ventilated and in good order, another has a floor badly shrunken, burned, and unclean, while certain plastering is falling, and the cellar contains water. Other buildings come in for a denunciation that is merciless: they are "old, leaky and rotten;" "shamefully

marked, dirty, and uninviting;" fences marred with words and cuts "too recent to allow any apology for the depravity which occasioned them;" a "magnificent structure," — "an ornament to the town if it can be preserved from unseemly mutilations," and yet unskillfully or unfaithfully built, with a leaky roof, no gutters, water in the cellar, and dampness threatening to health; a building uncomely and shamefully disfigured without and within, and yet, "for a wonder, well ventilated;" "the worst in town, a dirty looking affair, presenting a melancholy contrast to that physical and moral cleanness which our common schools are expected to secure;" and so on, with mingled praise and censure, to the end of the list.

As a result of this fearless presentation, a general purification and renovation of the school buildings began. There has been a steady advance in schoolhouse conditions, until to-day the evils that grieved good people a half-century ago are nearly, but not quite, gone. A great building like that of the English High School, with hundreds using it daily, kept with the cleanliness of a well-kept private house, with scarcely a pencil mark or trace of unseemly scribbling or hacking about it after years of occupancy, its lawns respected and the tulips and pansies blooming undisturbed in the open about it, — such a vision sixty years ago would have seemed a millennial dream. And yet such conditions are becoming the rule where once they were striking exceptions.

In 1844 there were parents who did not take kindly to writing excuses for tardy or absent children, and some of them betook themselves to sending saucy words to the teachers in such notes. "If the regulation is injudicious," say the committee, "the blame should rest with us who made it, and not with the teachers."

While the improvement of the schools in 1844 was commendable, there were exceptions. "Some children have a habit of always behaving as bad as they can upon every introduction of a new teacher. In some instances, one or two whole quarters have been nearly lost by this means." Parents were held by the committee as partially responsible for such rebellions, which sometimes were not quelled until the refractory had received the severest punishment or been expelled from school. Not long before, Horace Mann had reported that more than 300 schools in the State had been closed in a single year, because of

the incompetency of teachers or the insubordination of pupils. Cambridge, in 1844, had not completely emerged from this mania of school insurrection, the sad product of false and strained relations between the teacher and the taught, but the good work of deliverance was well under way at that time. "Scolding and fretting, angry and reproachful words, are fast giving place to milder and more powerful modes of influence. It is a pleasure to visit schools where a benevolent teacher presides, with easy dignity, over an orderly group of cheerful and industrious children, and infuses into their susceptible minds an affection for each other, with a love of study and of God."

In March, 1846, the report of the school committee, the last for the town, begins thus: "The School Committee of Cambridge render thanks to Almighty God, and congratulate their fellow-citizens, in view of the present unusual prosperity of the schools." The year 1845 was one of marked activity and progress. The scathing review of the schoolhouses a year or two before had borne fruit. Repairs were made, houses cleansed and some painted, offensive marks removed, and a substantial beginning made towards better schoolhouse conditions. Music was introduced as a science for discipline; as an attainment, if not accomplishment; and as a means for refreshment, good order, and right feeling. The ground was taken, in the matter of school work, that school study of a severe sort is less injurious probably to the body, the mind, and the morals "than that listlessness and idleness in which the intervals between recitations are too often worn away." More time should be given the children for recreation out of school, more work to do in school.

In morals a marked progress was noted for 1845. The habit of defacing buildings was nearly broken up; public sentiment had developed strongly against such abuse. Profane and impure language had diminished. The habit of truth-telling had gained ground. The duty of reverence was strongly urged in the report of 1845, — reverence to parents, to one's self, to teachers, to magistrates, and to all superiors in years and goodness.

Classes were still too large for the teachers. Cambridge was still outstripped by twenty-three towns and cities of the Commonwealth in the amount of money raised per child for schooling, Somerville raising $7.64, Boston $6.76, Chelsea $5.58, Charlestown $5.09, Newton $4.26, and Cambridge $3.95.

Still, Cambridge had risen from the thirty-fifth place the preceding year to the twenty-fourth, and that was cause for congratulation. The committee, however, did not think "it should be an object of ambition what town will expend the most money, but what town can produce the best schools."

Here the records must be dropped. Even in their fullness, the story they tell is somewhat meagre; and it is only a snatch or two from that story that is given here. It is not the story of a golden age in our school history, except so far as that age might have lived in the dreams of men who sought to advance the schools. It is certain, however, that the graphic, high-toned, and fearless reports of William A. Stearns[1] and his associates did wonders in quickening the town's educational conscience, and in toning up the schools to the better standards of the times.

THE SCHOOLS OF CAMBRIDGE TO-DAY.

The School Committee of Cambridge numbers fifteen members. The term of service is three years, one third of the committee retiring each year. Thus the board is practically a continuous body, always containing a majority that have had experience in school management. The mayor is chairman *ex officio*. The best men and women of the city respond freely to the public demand for their service on the board, and the list of past members contains many a name of state and even national reputation. This service has been admirably supplemented and strengthened by the gentlemen who have served as superintendents of schools since 1868: Edwin B. Hale, from 1868 until 1874, and Francis Cogswell, from 1874 to the present time. Whether guiding or executing progressive educational policies, Mr. Cogswell has shown rare wisdom and tact, and throughout his prolonged experience has enjoyed the uninterrupted confidence of his committee, the schools, and the public.

It is usually understood that the first superintendent of schools in Massachusetts was appointed in Springfield in 1840. Cambridge records show, however, that the town warrant of March 17, 1836, contained an article with reference to employing a superintendent of schools, that the school committee,

[1] Rev. William A. Stearns was the president of Amherst College, from 1854 to the time of his death in 1876. — EDITOR.

April 15, 1836, voted to employ one of their number in that capacity, that Josiah Hayward was accordingly elected superintendent, April 25, 1836, and that his salary was fixed at $250. The office was not kept up long in Cambridge; but in Springfield it was permanent, so that Springfield's claim to priority has a pretty solid basis.

The high school system of Cambridge embraces practically three schools, — the Cambridge Latin School, under the head mastership of William F. Bradbury, with 14 teachers and 388 pupils; the Cambridge English High School, under the head mastership of Ray Greene Huling, with 21 teachers and 674 pupils; and the Cambridge Manual Training School for Boys, under the superintendency of Charles H. Morse, with 10 regular teachers, 3 special instructors, and 172 boys, these boys being a portion of the 674 pupils in the English High School. These are the figures for December, 1895.

Our schools give a wide range of choice to ambitious youth. Does a young man wish to fit for Harvard, a young woman for Radcliffe? It can be thoroughly done in the Latin School, which has a five years' course for the purpose. Promising students can do the work in four years. Preparation for either of these colleges will answer for any corresponding college that may be selected. Has the pupil in thought the Institute of Technology or the Lawrence Scientific School? He may prepare himself in the English High School, with or without manual training. Is it an eminently practical course in carpentry, wood-turning, forging, machine-shop practice, and mechanical drawing, with sympathetic academical work, that is sought, — training in the alphabet and primer of the trades that aims to fit one to respond to the changing demands of industrial life? There is the Manual Training School, furnishing one half of such a course, and the English High School the other. Or is it an all-round and broader schooling that is wanted, with less of the classics and more of the sciences and English than in the traditional college course, — something that leads up to the normal school or to the college that admits without Greek, or to what we call the general-culture purposes of life? It is just this schooling that the English High School aims to provide.

Cambridge has nine grammar schools, each for both sexes, with six grades of pupils. The following table of these schools is based on the data of December, 1895: —

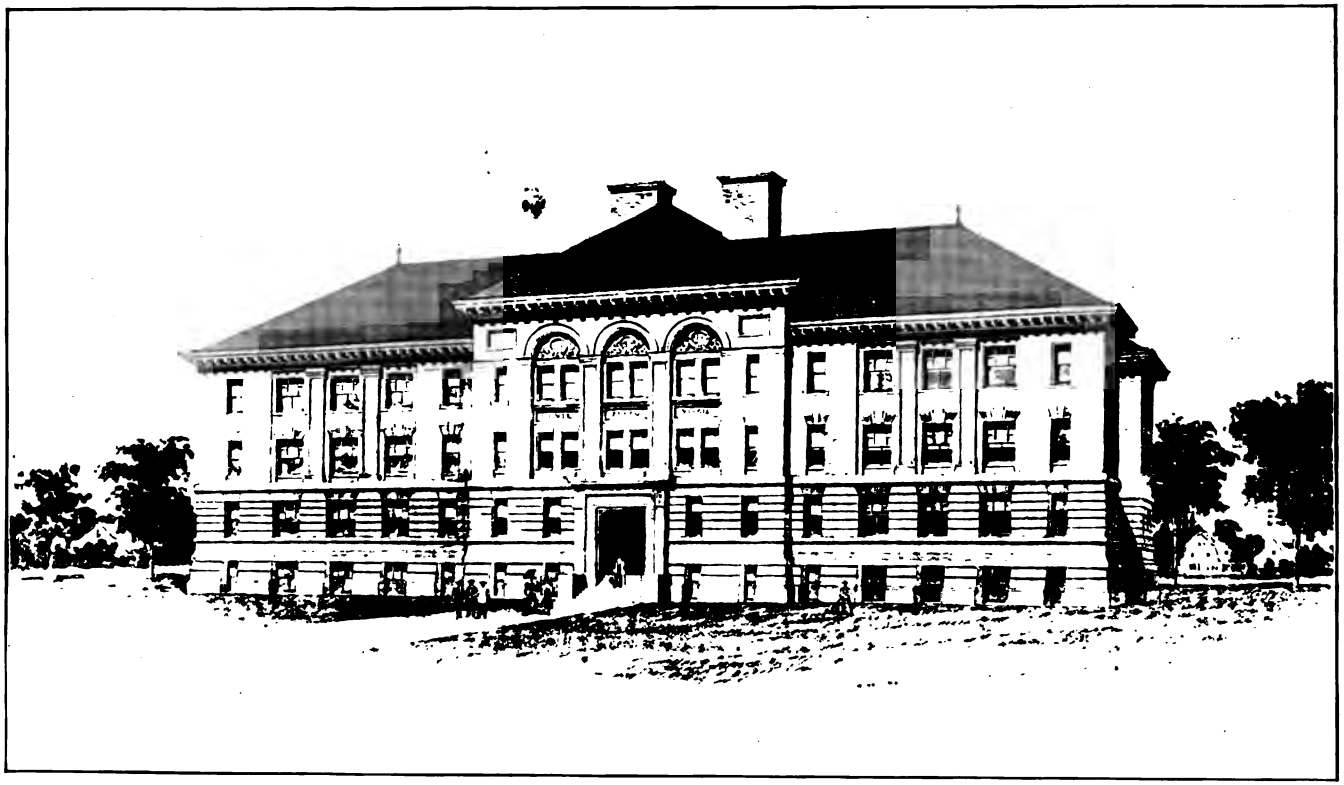
Schools.	When founded.	Teachers.	Pupils.	Principals.
Allston	1848	14	571	Benjamin W. Roberts.
Harvard	1841	19	742	James S. Barrell.
Morse	1890	11	414	Mary A. Townsend.
Peabody	1889	7	295	Frederick S. Cutter.
Putnam	1845	18	688	Thomas W. Davis.
Shepard	1852	12	449	Edward O. Grover.
Thorndike	1861	13	488	Ruel H. Fletcher.
Washington	1842	14	453	John W. Freese.
Webster	1853	17	685	John D. Billings.
Wellington	1884	5[1]	435	Herbert H. Bates.

The history and work of these great schools merit a larger notice than is here possible. It may be said in passing that Mr. Roberts has been principal of the Allston School from its beginning. At the age of eighty, he shows the vigor and progressive spirit of his prime. Many of these schools had an existence under other names and conditions before the dates of their founding as given above, like the Shepard, which was known as the Winthrop before 1852, and earlier still as the North Grammar; or like the Webster, known from 1841 to 1853 as the Mason; or like the Thorndike, which, previous to 1861, was the Otis, — the school which, from 1843 to 1847, was known as the High and Grammar School of East Cambridge; or like the Washington, whose history, as we have seen, makes it difficult to assign a satisfactory date for its founding. The Morse and Wellington schools have primary in addition to the grammar grades.

In addition to these ten grammar schools mentioned there are three others that contain grammar pupils to the number of 388 (December, 1895), — the Corlett, Agassiz, and Sleeper. These schools send their pupils of the upper grades to such of the other grammar schools as are in their vicinity. With the exception of the Corlett, the same schools have primary as well as grammar grades.

The Wellington School is a training school for teachers. There had previously been a training school from 1870 to 1882. An interval of two years without such a school brought into bold relief its value to the city. Consequently, in 1884, the present school was organized. It has a small regular force of

[1] Assisted by the training class.



THE CAMBRIDGE LATIN SCHOOL.

teachers, selected with reference to their ability, not only to teach, but to guide novices in the art. In addition there are from twenty to thirty pupil teachers, graduates of normal schools, and others of equivalent previous training, who are paid humble salaries, and who, as they prove their ability to do creditable work, are put into the schools of the city as substitutes or regular teachers.

Mr. Cogswell has arranged an ingenious plan, under which capable pupils may regularly, and in classes, complete the six years' course of the grammar schools in five years, and even in four. The report of the superintendent for 1894 shows that, of 563 graduates of the grammar schools, ten per cent. completed the course in four years, thirty-two per cent. in five years, forty-two per cent. in six years, and sixteen per cent. in seven or more years. The saving in time and money, both to the city and to the pupil, in this individual shortening of the course is much in its favor. Moreover, it is better intellectually and morally that one should work somewhere near his capacity for four years than dawdle along in the rear of that capacity for six.

A unique feature in the Cambridge grammar schools is the employment of special teachers to help forward such pupils as seem able to do the work in less than the prescribed time, as well as such pupils as threaten to take more than the prescribed time.

Geometry and physics have recently been put into the grammar schools, — the course in geometry having been outlined by Professor Paul H. Hanus and that in physics by Professor Edwin H. Hall, both of Harvard University. The instruction is limited to such simple elementary principles as may be readily apprehended by the young, and the methods of study are largely objective and experimental.

In the primary schools there are 5087 pupils and 116 teachers. They are under the immediate supervision of a "Special Teacher of Primary Schools," whose work is directed by the superintendent of schools. Miss Lelia A. Mirick, now Mrs. Frederick S. Cutter, was the first to hold this position, which was created in 1892. She was suceeeded in 1895 by Miss Mary A. Lewis. The course of study is for three years. Of the 1159 pupils graduated in June, 1894, ten per cent. completed this course in less than three years, fifty-eight per cent.

in three years, and thirty-two per cent. in more than three years. Regular instruction in botany has recently been introduced; also the Ling system of Swedish gymnastics.

For eleven years Mrs. Quincy A. Shaw of Boston maintained three free kindergartens in Cambridge. A fourth was supported by a few Cambridge ladies. In 1889 the school committee assumed them as a part of the public school system and since that time have gradually added to their number until to-day there are eight kindergartens with 417 pupils and sixteen teachers.

The city employs several special teachers. Mr. Frederick E. Chapman is director of music and Mr. James M. Stone director of drawing. There are also teachers of botany, gymnastics, and sewing.

The city maintains one evening high school, four evening elementary schools, and one evening drawing school.

It is sad that the blessings of school so prized by the vast majority of our citizens should fail to impress some of our number. Absenteeism in a bad sense has been heavily reduced since the founding of the city, but it still exists. Whatever its cause, whether the ignorance, indifference, misfortune, greed of gain, inability to control, or what not of the parent, it should be kept down to a minimum both for the children's sake and for that of their families and the community. Hence the employment by the city of four truant officers who are in constant touch with the teachers on the one hand and the irregulars on the other.

A comparison of Cambridge statistics for 1845, the last year of the town, with those for 1895, the fiftieth of the city, reveals surprising changes.

	1845	1895
Population	12,000	82,000
Valuation	$8,600,000	$82,000,000
Cost of instruction	11,558	235,812
Cost per pupil	3.95	20.50
Percentage of valuation spent on schools	.0013 mills.	.0034 mills.
Ratio of school tax to the whole tax	33%	33%
Number of pupils	2151	12,174
Number of teachers	30	322
Number of pupils per teacher	71	38
Salary of high school principal	$800	$3,000
Salary of grammar school principal	700	2,000
Salary of grammar school teachers	250	620

This comparison shows that our population during the past fifty years has increased sevenfold, our valuation tenfold, the cost of instruction per pupil about fivefold, the percentage of valuation expended on schools nearly threefold, and the salaries of teachers about threefold, while the number of pupils per teacher has been reduced nearly one half. The ratio of the school tax to the entire tax has remained, however, about the same, indicating that whatever advance there may have been in school expenditures, there has been a like advance in all other departments of the government. In striking contrast with this growth of expense in certain things is the decrease in expense of many other things, — text-books, pictures, freight, travel, and the like. Such changes are a part of our civilization. Cambridge has simply borne her part in the irresistible modern drift. The days of content with wretched buildings, scant equipment, worn books from former generations, meagre salaries, narrow programmes, and the entire scale of humble school expenditure are seemingly gone forever, not simply in Cambridge, but in all Massachusetts communities of consequence. Were Cambridge suddenly and alone to go back to those Arcadian times when it cost her only $3.95 per pupil for instruction, she would drop from the thirty-sixth place which she holds to-day in the list of three hundred and fifty-three Massachusetts towns and cities to the three hundred and fifty-second, with the Indian town of Gay Head at the foot to keep her company, while the expenditure of $44.76 per pupil by number one in the list would seem to them both unpardonable extravagance.

The educational advantages of Cambridge are by no means exhausted with this meagre account of the public schools. There are private schools of many grades, some of them excellent. There is Radcliffe College for young women. Above all there is the famous university, with its great library, its wonderful museum, its botanical garden, many of its lectures and much else that it provides for its students, all freely open or open with but moderate limitations to the public. For fifty years with scarcely a break Harvard College has been represented on the school committee of the city. Of late years it has given free courses in certain subjects to the teachers of the city. In the Prospect Union, it is repeating its instruction, in a popular way, for workingmen and others, thus bringing the college and those that choose of the people into a touch helpful and inspiring to both.

To these advantages may be added finally that indefinable atmosphere which comes from historic and literary associations unmatched elsewhere in the western world, the very breath of which is an education not to be despised.

The Newtowne of 1631; the Harvard of 1636; the old burying ground where lie the early presidents of the college; the holiday routes of the British to Concord and Lexington; the bloody routes of their return; the elm where Washington took command of the army, the mansion where he lived with Lady Washington, the little church that both attended; the site of the ramparts thrown up in the siege of Boston; the winding road — old Tory Row — by which the army of Washington marched out of Cambridge for New York and by which, not long after, the army of Burgoyne from New York marched into Cambridge; Hollis, Stoughton, Holworthy, and the rest, — the sometime homes of scores of men subsequently distinguished in their respective fields of service; the site of the gambrel-roofed house where Holmes was born; the stately home of Lowell among the pines and near the willows that stirred his muse; and doubly dear, with its memories of Washington as of the poet, that of Longfellow, with its vista of the sinuous Charles and the marshes beyond; beautiful Mount Auburn, — the Westminster Abbey of New England, where at every turn the names of the illustrious dead quicken one's memory of the history they shared in making, — these are but a part of the priceless heritage that is ours.

Does the sense of their value ever become dull? Let the pilgrims that come to us in annually increasing numbers sharpen that sense, and nerve us to keep these memorials, so far as their keeping may be in our hands, as unique and sacred supplements of our educational facilities.

PRIVATE SCHOOLS IN CAMBRIDGE.

THE high character of the public schools in Cambridge is a reason why there have been a small number of private institutions, though, of course, this very quality in the public schools has made it necessary that those private institutions that have been established here should be of an unusually high grade of excellence. The movement in this direction has, therefore, not

been so strong as in many other communities, but the reasons for it are the same everywhere. "The multiplication of private schools of a high order is not to be accounted for," writes Mr. Charles Dudley Warner, "by an undemocratic reluctance to submit well-bred children to the associations of the popular schools. What is wanted," he continues, "is an institution under individual management; not for mere experiments, but for development founded upon experience, and suited to the capacities and the positions of the great variety of scholars." It may be added that in some instances it is a wish on the part of the parent to place the child under school influences that are emphatically religious or denominational. In whatever direction the training is desired, the parent wishes that it may distinctly "raise the ideal of life." Many a one seeks a school of smaller size than he can find among those supported by the State, in which the course of study can be adapted more particularly to the need of each individual pupil.

PROFESSOR AGASSIZ'S SCHOOL.

The mind reverts at once, when the subject of private schools is mentioned in Cambridge, to that notable one connected with the name of the great Agassiz, which was opened in his residence in 1855 and closed in 1863, during a portion of those years when the professor was stimulating scientific study in a way that no other single master has ever stimulated it in America.[1] It is interesting to read of the enthusiasm with which the great teacher entered upon the labor of this school. It was in the winter of 1855, when his physical energy had been exhausted by work, in order to add to the scant income of his college professorship, that "it occurred to his wife and two elder children, now of an age to assist her in such a scheme, that a school for young ladies might be established in the upper part of the new and larger house" which Harvard College had just built for him. "If successful, such a school would perhaps make good in a pecuniary sense the lecturing tours which were not only a great fatigue to Agassiz, but an interruption also to all consecutive scientific work. In consultation with friends these plans were partly matured before they were confided to Agassiz himself. When the domestic conspirators revealed their plot, his surprise and pleasure knew

[1] See *Scientific Cambridge*, by Professor Trowbridge, p. 74. — EDITOR.

no bounds. The first idea had been simply to establish a private school on the usual plan, only referring to his greater experience for advice and direction in its general organization. But he claimed at once an active share in the work. Under his inspiring influence the outline enlarged, and when the circular announcing the school was issued, it appeared under his name, and contained these words in addition to the programme of studies: 'I shall myself superintend the methods of instruction and tuition, and while maintaining that regularity and precision so important to mental training, shall endeavor to prevent the necessary discipline from falling into a lifeless routine, alike deadening to the spirit of teacher and pupil. It is further my intention to take the immediate charge of the instruction in Physical Geography, Natural History, and Botany, giving a lecture daily, Saturdays excepted, on one or other of these subjects, illustrated by specimens, models, maps, and drawings.'" [1]

Jules Marcou, in his life of Agassiz, says that "Mrs. Agassiz had the whole management of the school; everything was referred to her as director. She took the directorship of Agassiz's school in a masterly way, and succeeded admirably. She herself did not teach, but everything regarding the teaching came under her supervision. As the fees were high, the school was a very select one, and pupils came from different parts of the United States, even from as far west as St. Louis. It was considered a great privilege to be taught by such a naturalist as Agassiz, and all the girls whose parents could afford it were anxious to join the school. Of course, the great attraction was Agassiz. . . . The girls' parents often came with them, and sat down in the schoolroom to listen to the lectures, which were so clear and so entertaining that every one followed with the greatest attention the subjects brought up by their great teacher, however difficult they might be." [2]

Mrs. Agassiz says that Mr. Agassiz "never had an audience more responsive than the sixty or seventy girls who gathered every day at the close of the morning to hear his daily lecture; nor did he ever give to any audience lectures more carefully

[1] *Louis Agassiz, His Life and Correspondence.* Edited by Elizabeth Cary Agassiz. Boston: Houghton, Mifflin & Co., 1886, pp. 525–529.

[2] *Life, Letters, and Works of Louis Agassiz,* by Jules Marcou. New York and London, 1896, ii. pp. 60, 61.

MANUAL TRAINING SCHOOL.

prepared, more comprehensive in their range of subjects, more lofty in their tone of thought. . . . It was the simplicity and clearness of his method that made them so interesting to his young listeners. 'What I wish for you,' he would say, 'is culture that is alive, active, susceptible of farther development. Do not think that I care to teach you this or the other special science. My instruction is only intended to show you the thoughts in nature which science reveals, and the facts I give you are useful only, or chiefly, for this object.' . . . Agassiz had the coöperation not only of his brother-in-law, Professor Felton, but of others among his colleagues, who took classes in special departments, or gave lectures in history or literature." Among these additional instructors was Luigi Monti, the Young Sicilian of Longfellow's "Wayside Inn,"

"In sight of Ætna born and bred,"

who was at the time teaching in Harvard College.

MR. KENDALL'S SCHOOL.

Mr. Joshua Kendall's Day and Family School to fit young men for Harvard College was begun in the fall of 1865, its nucleus being some pupils whom Mr. Kendall had taught at his own home, and some others whom he had had with Professor William P. Atkinson, before that gentleman accepted the professorship of English and history at the Institute of Technology.

For several years, Mr. Kendall was assisted in his work by Mr. John H. Arnold, until that gentleman left to be librarian of the Dane Law School.

Since that time, the school has been carried on by Mr. and Mrs. Kendall, assisted from time to time, in special departments, especially in laboratory work in physics, by competent teachers, easily procured in the vicinity.

No attempt has been made to establish a large school. The aim has always been rather to lead the pupil to get a lasting interest in his studies by doing thorough work for himself in them, than a superficial interest gained by talking or lecturing.

As the number of pupils is small, the teaching is done in part only by classes, in large part by oversight of each one's work or perplexities separately. At whatever point in his preparation a new pupil is found to be, from that he is pushed farther on.

Believing that boys intended for a liberal course of study should be early initiated into that course, whenever he can the principal is glad to have them begin with the elements of Latin or French, with algebra and inventional geometry at the age of nine or ten years.

This school has had its measure of success in training boys in knowledge and righteousness; good results have been reached; patrons have generally, after trial, approved of it. Three professorships in as many of the leading universities in the country are now filled by its graduates, while others hold high positions of different kinds. This shows that some of them get a right start at least on the road to higher learning in this school.

Mr. Lyman R. Williston opened a school for girls, on Irving Street in 1862. It was removed the following year to its present situation. It is called "The Berkeley Street School" from its location. Mr. Williston conducted the school with success until 1870, and then transferred it to his brother-in-law, Mr. Justin E. Gale, who, in turn, passed it over in 1881 to Miss Margaret R. Ingols, who still carries it on.

THE BROWNE AND NICHOLS SCHOOL.

In the fall of 1883, at the suggestion of Professor Child, Professor Norton, and others interested in the establishment in Cambridge of a school for boys which should effectively meet the demands of the new education, the Browne and Nichols School was founded at No. 11 Appian Way. The principals had graduated from Harvard only five years before, and they therefore brought to bear upon the problem fresh experience, both from the student's and the teacher's point of view. A radical change in the traditional course of study was immediately adopted: four departments, language, mathematics, science, and history, were organized; and while a high standard was maintained in the classics and mathematics, much more time than usual was devoted to modern languages, science, and history.

By keeping the classes small, and thereby adapting the work to the individual needs and capacities of pupils, the teachers were enabled from the first to give not only excellent preparation for the university and the scientific school, but also thorough training in branches not required for the entrance examinations.

The success of the school was immediate, and its growth rapid. In 1885 more commodious quarters were found at No. 8 Garden Street. In 1887 the gymnasium was built. In 1889, in order to increase the economy of time and effort that their peculiar organization had already effected, the principals added a preparatory department, and were thereby enabled to lay out a continuous course of eight years, almost exclusively under the same instructor in each subject, for pupils beginning at the age of nine. The wisdom of these principles has been amply justified by experience. The teachers have generally been Harvard men, and the most interested patrons have been Harvard professors. In spite of the distractions of university-town life, this community of interest and familiarity on the part of the teachers with college methods and aims have enabled the school to give its graduates a preparation for college, not merely for examinations, — a preparation characterized not so much by high marks on the entrance examinations as by excellent continuous work during the college course, and by high standing at the end of it, — as is shown by the uniform record of its graduates, and by the voluntary testimony of college patrons, who are best qualified to judge. A school that fulfills this function is obviously capable of giving an excellent education to boys who do not go to college.

The present school building was built in the summer of 1894, under the supervision of the owners from their own plans, and is therefore specially adapted to their particular needs. The rooms are large and high, finished in natural ash throughout, and the walls are tinted a soft buff. The windows were constructed on the principle that it is easier to keep light out when it is excessive, than to get it in when it is deficient. The heating and ventilating is of the most approved kind, — a gravity system, with indirect radiation. An upward current is established by steam coils in large ventilating ducts leading to the roof from the level of the floor of each room; and fresh air from out of doors is drawn over single or double steam coils in the basement up through iron ducts opening into each room through large apertures eight feet from the floor. A constant supply of over fifty cubic feet per minute of warm fresh air for each pupil is thus kept in gentle circulation without draught. The heating of the ample halls and the conservatory is reinforced by direct radiation. The plumbing, baths, and sanitaries, which

are ventilated into an independent system, are of the best design, and, like all the other appointments, have most successfully stood the test of two years' experience.

The school is pleasantly situated opposite the Common, near the Washington Elm, next to Radcliffe College. It attracts not only pupils from the neighboring towns, but also families from distant parts of the country, who come to Cambridge to live during the education of their children.

THE CAMBRIDGE SCHOOL FOR GIRLS.

The Cambridge School for Girls, which now occupies the building numbered 79 on Brattle Street, was opened in October, 1886, in the house numbered 20 on Mason Street, formerly the home of Professor Peck of Harvard College, and has therefore just completed its tenth year. The number of pupils at present is about one hundred, but it was not at first intended to include so many. Mrs. Arthur Gilman, whose interest in the higher education of women had led her to induce her husband to make the plan which resulted in Radcliffe College, wished to have a small class for the instruction of her own children, and it was only when she found that there were many other mothers who wished to send their daughters of various ages to the same teachers, that she relinquished the scheme, and Mr. Gilman took it up.

The house on Mason Street was bought for the school, and there it remained until three years ago, when the present edifice was erected and ready for occupancy. During this period, the original building had been constantly enlarged as the numbers increased, and when pupils began to come from a distance, a residence was erected at No. 21 Chauncy Street, and prepared for them. This was named for the wife of the first governor of Massachusetts, Margaret Winthrop Hall. When this became too limited in accommodation for the demand upon it, the residence of Mr. William D. Howells was obtained, and opened for the same purpose. By this plan the school remains a day school, and the residences are real homes.

It has been a part of Mr. Gilman's plan to have no instructor living in the residences, so that the pupils and teachers are separate, and come fresh together at the beginning of the school-day. The heads of the residences are chosen for their ability in forming a home, and in giving to young women that cultiva-

tion which is not to be learned from books. The plan is an expensive one to carry out, but Mr. Gilman's faith that it is the best for the young woman gave him great confidence in it, and experience in carrying it on has shown its advantages.

A visitor from New York writes of The Cambridge School as follows: —

"There has always been a special inspiration in the air of Cambridge, and in the impress which has been made upon the town by many of its citizens. In the living present there is no lack of the same spirit. To be the home of Harvard University should be honor enough, but more falls to the lot of Cambridge, and in no small measure to the school about which we write. Nor is this an exaggerated statement when we consider the importance of the proper education of our girls, and the unique characteristics of this particular school. To give to girls and young women thorough and well-ordered instruction is the aim of The Cambridge School. Individual need is the gauge, that each pupil may receive the training best calculated for a well rounded development of talents and general character. . . .

"The Cambridge School occupies three buildings in the best part of Old Cambridge. Two of these are residences for young ladies who come from a distance; the third is the school building proper. Here are the class-rooms, study-rooms, dressing-rooms, book-room, laboratories, and office. All these are arranged in the best possible manner to serve the object in view, namely, teaching. The residences are entirely separate from, although near to, the school building itself, and they are arranged for their own peculiar use. In this arrangement lies the special and distinctive feature which Mr. Arthur Gilman, the director of The Cambridge School, emphasizes most particularly. The teachers are supreme in their own departments under the director, who is not a teacher himself. Out of the schoolroom the girls are under the charge of four experienced ladies, two in each residence. Their duty is to 'make a home' for the pupils, and they study how to bring this about with as much pains as do the teachers their own part. Thus the social and home life of the students as well as their actual school life is developed at the same time in all legitimate ways. Such a plan approaches as nearly as possible to the ideal. Of course, the teachers and the house-mothers, as we may not inaptly call the ladies in charge of the residences, have frequent opportu-

nity for conference and consultation regarding the interests of the pupils, and they work together in perfect harmony toward the one great end. . . .

"Too much emphasis cannot be put upon the all-important feature of home life. Pupils go to school primarily, of course, to study, but even learning may be bought at too costly a price. The curriculum at The Cambridge School embraces all that is needed either to fit a young lady to enter college, if she is destined so to do, or to send her home the possessor of a finished education. It should be borne in mind that The Cambridge School is not simply a preparatory school, but one where scholars of any age can find all they need without looking forward to a future educational course. The home and social training go on hand in hand with the school life. The ladies in charge of the residences do not teach. They do watch over the girls in their care. Being ladies of high social position, the pupils have all the advantages afforded by Cambridge and Boston. These ladies are responsible for the out-of-school conduct of the girls, but they do not bind them by irksome rules. They care for each resident pupil as an individual. The character of each is made a special study, and suggestion and help are always forthcoming. High ideas of womanliness are constantly held before the pupil, and the cultivation of the social graces and courtesies of family life is ever insisted upon. With all this, however, the greatest possible liberty consistent with strict propriety is allowed.

"The course of study is thorough and comprehensive. In addition to this the advantages of situation are as rare as they are notable. The neighborhood of Harvard with its atmosphere of learning and its literary influence must act as a stimulus to any student. Longfellow, whose house at Cambridge stands near the school, most truly said: —

> "'Lives of great men all remind us
> We may make our lives sublime.'"

"Cambridge has been the home of many great men in the realms of literature and art. Here during the college terms, and indeed throughout the year, are gathered men who are *facile princeps* in their own peculiar fields of work. The patriotic spirit is stirred by the daily sight of the Washington Elm, under which Washington is said to have drawn his sword when he took command of the American army. Upon this favored

town have descended in especial force inspiring influences from the patriot Washington, the gentle and sweet-spirited Longfellow, the genial Holmes, and the broad-minded Lowell. Thus an atmosphere is created which is calculated to sustain the studious spirit."

FITTING SCHOOL FOR BOYS AND GIRLS.

In 1879, Miss K. V. Smith was encouraged by Ezra Abbot, John Fiske, Charles Eliot Norton, and Francis J. Child to open a private school for boys and girls at 16 Ash Street. It was removed the next year to 5 Phillips Place, and again changed to 54 Garden Street, and in 1887 to its present high and sunny locality at 13 Buckingham Street.

The school aimed to give an education broader than usual, by methods tending toward intellectual independence, anticipating thereby a large number of the suggestions of the recent educational committees and conferences.

The daily session is short, and only for recitations, responsibility for study hours at home being a part of the disciplinary value of the school. In place of any systematic marking in lessons or in conduct, the school has been controlled by a spirit of honor and an enthusiastic interest in work, — the legacy of the first class. The class-rooms have been opened freely to the parents and to friends of education. These educational departures won from the first the support and sympathy of the best patronage.

This school was the first private co-educational institution for college preparation in Cambridge.

Besides the private schools mentioned, there are several others. Miss Jeannette Markham has one for girls on Buckingham Place, and Miss Elizabeth Manson established a kindergarten in October, 1887, which at present occupies the house No. 46 Concord Avenue, near the Harvard Observatory. It will be apparent that Cambridge is well furnished both with public and private schools of a high character.

CAMBRIDGE JOURNALISM.

By F. STANHOPE HILL,

EDITOR OF "THE CAMBRIDGE TRIBUNE."

So far as this writer has been able to discover, the first newspaper printed in Cambridge was the "New England Chronicle and Essex Gazette," published by Samuel and Ebenezer Hall from a chamber in Stoughton Hall, assigned to them by the Provincial Congress in May, 1775.

"From this press," says a contemporary, "issued streams of intelligence and those patriotic songs and tracts which so pre-eminently animated the defenders of American liberty." But when the American army removed from Cambridge a year later the "Chronicle and Gazette" seems to have suspended publication. It is very evident there was no newspaper in this town in July, 1786, for when a letter to the selectmen of Cambridge requesting their concurrence in a county convention, to be held in Concord on August 23, in order to consult "upon matters of public grievances and find out means of redress," with its answer, was ordered to be printed by our selectmen, it appeared, July 27, 1786, in the "Boston Independent Chronicle." There is a bare possibility, however, from the similarity of name, that our Cambridge "Chronicle and Gazette" had been moved into Boston as a broader field for journalistic enterprise.

Be that as it may, it is a somewhat singular fact that Cambridge, where the first printing-press erected in New England was set up by Stephen Daye in 1639, should have arrived at the mature age of two hundred and sixteen years before she awoke to the necessity of maintaining a local newspaper.

To the modern journalist who is familiar with the numberless interesting and dramatic episodes that are associated with the early history of Cambridge, the fact that we should have had no local newspaper to record these events properly seems an appalling waste of opportunity.

Why, for instance, should it have been left to the "Boston News Letter" of September 19, 1754, to describe the exciting "chase of a Bear" from Lieutenant-Governor Phips' farm in Cambridge down to the Charles River, and his subsequent capture; or that far more exciting scene in September, 1774, when the British troops from Boston carried off the powder from the Somerville powder-house. And fancy the wealth of display headlines which a Cambridge newspaper would have deemed necessary to set forth properly the story of that eventful visit of "about four thousand people" to Lieutenant-Governor Thomas Oliver's mansion on Tory Row, which resulted in his resignation and subsequent flight into Boston.

Quiet country towns like Greenfield, Worcester, Salem, Newburyport, and Portsmouth, where life moved on in an endless monotony of pastoral simplicity, all had excellent weekly newspapers, founded a century or more ago. Yet Cambridge, a university town of vastly more importance and with far greater facilities for producing a newspaper than any of these places, had no home paper until 1846.

This is the more remarkable in that for years she had counted among her highly respected citizens a number of well-known journalists who rode into Boston each morning in the hourlies to aid in making the daily papers of our neighboring city, and rode out again in the evening to take their well-earned repose at their homes hard by the banks of the placid Charles.

Among these were Joseph Tinker Buckingham (*né* Tinker),[1] who commenced his career in 1795 at the age of sixteen as a printer in the office of the "Greenfield Gazette." In 1800 he came to Boston, and after some journalistic experience, which was not successful, in that city, he removed to Cambridge. Later he built a house on Quincy Street where Mrs. James

[1] The father of Mr. Buckingham was Nehemiah Tinker, but the son took his mother's name by permission of the Massachusetts legislature, in 1806. He has been immortalized by Mr. Lowell, in the first series of the *Biglow Papers*, which was published in the *Courier*, in 1846-1848, when Mr. Buckingham was its editor. "his Folks gin the letter to me and i shew it to parson Wilbur and he ses it oughter Bee printed. send it to mister Buckinum, ses he, i don't allers agree with him, ses he, but by Time, ses he, I *du* like a feller that ain't a Feared."

It was in the *New England Magazine*, then under the editorial care of Mr. Buckingham, that Dr. Oliver Wendell Holmes published his first "Autocrat of the Breakfast-Table" paper, mentioned many years afterwards in the first number of *The Atlantic Monthly*. — EDITOR.

Fiske's house now stands and lived there many years, but afterward moved to what is now called Buckingham Street, where he died.

Another famous Cambridge editor was Theophilus Parsons, Dane Professor of Law at Harvard, but also founder and editor of the "United States Free Press," and for several years engaged in literary pursuits.

William Lloyd Garrison, of "The Liberator," lived in Cambridge, on the northwest corner of Broadway and Elm Street, from 1839 to 1843, and did some right good editorial work during that period. John Gorham Palfrey was one of the editors of the "Boston Daily Whig," the precursor of the Free Soil press, about 1846, and was one of the editors of "The Commonwealth." Robert Carter, who was also one of the early editors of "The Commonwealth," had previously aided James Russell Lowell in editing "The Pioneer," a short-lived magazine. And Lowell himself in 1848 was "corresponding editor" of the "Anti-Slavery Standard," editorial correspondent of the "London Daily News," and later, in 1863, was joint editor, with Professor Charles Eliot Norton, of the "North American Review."

Another of the "Abolition editors" was Rev. J. S. Lovejoy of Cambridgeport, of "The Emancipator;" while Rev. Thomas Whittemore of this town was editor of "The Universalist Magazine" and of "The Trumpet." But the list of Cambridge men who have been prominently known as journalists and editors and writers for magazines strings out to a portentous length. Among many others there are Francis Ellingwood Abbott, Rev. Edward Abbott, Professor Charles F. Dunbar, Mr. Joseph Henry Allen, Francis Foxcroft, Professors Francis Bowen, Charles Eliot Norton, and Andrews Norton, Rev. William Ware, William Brewster, William D. Howells, Samuel H. Scudder, Horace E. Scudder, and Thomas Wentworth Higginson, who so gracefully links the younger and older generation of Cambridge writers.

Yet with all this roll of Cambridge men famous in this sphere of work it remained for an obscure stranger to make the first venture in local journalism in our city. From 1842 until 1845 the residents of Old Cambridge were earnestly striving, both in town meeting and in the legislature, to be set off from the Port and East Cambridge as a separate town under the name

of Cambridge. But these local dissensions were temporarily healed by the "Act to establish the City of Cambridge," approved March 17, 1846. While the excitement attendant upon the adoption of this measure was rife, Mr. Andrew Reid, a Scotchman, who had served an apprenticeship as a printer in his native country and had come to Boston from Halifax and engaged in the printing business, decided to venture the publication of a weekly newspaper in Cambridge.

The first number of this sheet, which he called "The Cambridge Chronicle," appeared on Thursday, May 17, 1846, issued from an office over the grocery store of the late Joseph A. Holmes on the corner of Main and Magazine streets. The initial number contained a full account of the inauguration of the new city government on the previous Monday, May 7, with Mayor Green's speech in full occupying four and a half columns. The paper was successful, in a moderate degree, from the first, but Mr. Reid was in poor health and died January 4, 1847, and the "Chronicle" passed into the possession of Mr. John Ford, in February of that year. In January, 1855, the office was removed to the corner of Main and Temple streets, and in 1858 Mr. George Fisher purchased the "Chronicle" and conducted it until 1873, when he sold the property to Mr. Linn Boyd Porter, under whose charge it remained until 1886, when it was purchased by Mr. F. Stanhope Hill. Four years later, in 1890, Mr. Hill bought the "Tribune" and sold the "Chronicle" to Mr. F. H. Buffum, but the property returned to Mr. Hill in 1891, and he then sold it to the present proprietors, J. W. Bean and C. B. Seagrave, who have since added a job printing establishment to the plant and made it a prosperous business enterprise at 753 Main Street.

In April, 1866, Mr. James Cox, a practical printer in Boston, established the "Cambridge Press," at first as an independent paper, although the publisher was then identified with the Democratic party. But in 1872, when General Grant was nominated for a second term, the "Press" fell into the Republican ranks, where it has since remained and seems likely to stay while the present editor is in control of its affairs.

The "Press" has always given close attention to municipal affairs, and was the first Cambridge paper to advocate the no-license policy. Mr. Cox, who established the paper just thirty years ago, is still in possession, although he has passed full

threescore and ten years of an honorable and respected life, and is the Nestor of Cambridge journalism.

"The Cambridge Tribune" was founded in 1878 by Mr. D. Gilbert Dexter, the first issue appearing on March 7 of that year. Our local papers, the "Chronicle" and "Press," were both published at Cambridgeport. The "Tribune" was the first newspaper especially identified with Old Cambridge, and it has continued to occupy its chosen field without competition, proving both the wise judgment displayed in selecting its home, and also that it has satisfactorily filled the field.

At first, the "Tribune" was printed at the University Press, although its type was set at its office, 19 Brattle Square; but later it was removed to No. 3 Linden Street, opposite the college library, where it is still published. In 1885, Mr. Dexter's health failing, he sold the "Tribune" to Mr. William B. Howland, who, after conducting it with very great success for five years, was induced to go to New York as business manager of the "Christian Union" (now "The Outlook"), and he sold the property to Mr. F. Stanhope Hill, who has since carried the "Tribune" on upon the same general lines that have marked its course from the first number, giving it a literary tone, and avoiding sensationalism.

Among the contributors to the "Tribune" during the past eighteen years are numbered the poets Longfellow, Lowell, and Holmes, Thomas Wentworth Higginson, William Winter, Rev. Drs. A. P. Peabody, Alexander McKenzie, and Edward Abbott, Rt. Rev. William Lawrence, D. D., Andrew MacFarland Davis, Professors Charles Eliot Norton, William James, and Albert B. Hart, Arthur Gilman, Caroline F. Orne, Charlotte Fiske Bates, and scores of others almost as well known.

"The Cambridge News" was established by Mr. Daniel A. Buckley in the year 1880. This gentleman has a peculiar individuality and strong convictions, and his paper is mainly the exponent of his personal opinions of public men and their conduct of municipal affairs, which he does not hesitate to advance and maintain in forcible language. By that chance which is often the fate of would-be reformers, the editor of the "News" is not infrequently in a popular minority, but the honesty of his convictions has never been impugned, and those who differ from his views the most radically listen to his remarks on public occasions with interest, and not seldom with amusement.

The college publications include the "Crimson," a bright and very prosperous little daily, eagerly sought for by the students each morning, and an acknowledged authority on all undergraduate matters; the "Lampoon," the "Advocate," and "The Harvard Graduates' Magazine."

"The Sacred Heart Review" is a Roman Catholic religious weekly published by the Rev. John O'Brien, which has a very large circulation throughout the State.

The Cambridge newspapers have used their columns mainly for the discussion of domestic matters. The churches, the university, the schools, the proceedings of the City Council, and the development of local industries, have engaged their attention rather than the consideration of larger national affairs. Three of the four are classed as independent in national politics, but the "Press" is, as has been said, Republican. On the questions of no-license and non-partisan municipal government, the four papers are as a unit in their hearty support of both policies. That they have been right in their general course, and that they fill with a reasonable measure of success a want in the community, is shown by the generous support they have received from our citizens.

THE CAMBRIDGE MANUAL TRAINING SCHOOL FOR BOYS.

By CHARLES H. MORSE,

THE SUPERINTENDENT.

On November 12, 1887, at a special meeting of the City Council, Mayor Russell read a communication from Mr. Frederick H. Rindge, a former resident of Cambridge, part of which was as follows: —

Hon. William E. Russell: —

Dear Sir, — It would make me happy to give the City of Cambridge, provided no considerable misfortune happens to my property within two years from date, three gifts, which are described herein.

. . . . . .

Third, an Industrial School Building, ready for use, together with a site for the same in the immediate neighborhood of the Public Library Common, provided the following inscription, in metal or stone letters, be placed on the outside of said building and over its main entrance door: "Work is one of our greatest blessings; every one should have an honest occupation." I wish the plain arts of industry to be taught in this school. I wish the school to be especially for boys of average talents, who may in it learn how their hands and arms can earn food, clothing, and shelter for themselves; how, after a while, they can support a family and a home; and how the price of these blessings is faithful industry, no bad habits, and wise economy, — which price, by the way, is not dear. I wish also that in it they may become accustomed to being under authority, and be now and then instructed in the laws that govern health and nobility of character. I urge that admittance to said school be given only to strong boys, who will grow up to be able working men. Strict obedience to such a rule would make parents careful in the training of their young, as they know that their boys would be deprived of the benefits of said school unless they were able-bodied. I think the Industrial School would thus graduate many young men who would prove themselves useful citizens.

MANUAL TRAINING SCHOOL, INTERIORS.

I ask you to present this communication to the City Government of Cambridge and notify me of its action in relation to it. Should the gifts, with their conditions, be accepted, I hope to proceed at once with the work.

Respectfully yours,

FREDERICK H. RINDGE.

The City Council accepted this offer, and Mr. Rindge commenced at once the construction of a suitable building, upon the completion of which the school was opened, in September, 1888.

From its inception it has been under the watchful eyes of its founder and supporter, who has written scores of letters to its superintendents, giving them valuable suggestions and words of encouragement. The conservative management of its supervising committee has also in no small degree been an incentive to the superintendent and the corps of able instructors. Its growth has been rapid, strong, and healthy, and with such management the successful maintenance of the school is assured. The present members of this committee are Hon. William E. Russell, Col. T. W. Higginson, Hon. Samuel L. Montague, Mr. Andrew McF. Davis, Mr. E. B. Hale, and Mr. Robert Cowen.

The school has gained an almost national reputation for its eminently practical, progressive, and unique features. During the eight years of its existence it has grown from a mere educational experiment to an indispensable factor in the school system, and its methods have been copied by cities throughout the country, wherever an effort is made to keep abreast with modern educational principles.

No one who has observed the trend of industrial and social progress doubts that the prevailing forms of education are inadequate to the needs of many boys. The founder of the Cambridge Manual Training School has provided the means of testing, under most favorable circumstances, the educational value of training based upon the mechanic arts. Every improvement in equipment and in methods of instruction suggested by nearly eight years' experience has been made, and the school is now fully prepared to do the work for which it was established. In order to provide for the future needs of the youth of Cambridge, for whose benefit the school was primarily established, it has been equipped on a scale of liberality which makes it, for the

present, possible to accommodate a considerable number of non-resident pupils. The loyalty of its students, and the favorable impression already made by its graduates, are encouraging evidences of its success.

The training that the boys receive is broad, and, above all, practical, — a training calculated to make good workmen, good citizens, and good men. Its scope covers all branches of the mechanic arts, including carpentry and joinery, blacksmithing, wood-turning, and pattern-making, iron-fitting, machine-shop practice, and mechanical drawing.

No claim is made, however, that the school teaches a trade. Did it do so, it would not be an educational institution of the high order which it is in the minds of educators. In no sense is it a trade school, but rather a school in which the whole man is educated, the hand and the mind, and the mind more broadly than would be possible without the education of the hand. The training given emphasizes strongly the academic side of the work, and strives to make that work more interesting and effective by bringing it into intimate relation with practical applications. The school is peculiarly adapted to the needs of boys who have little aptitude for abstract study, but who wish to prepare themselves for employment in which mechanical skill and an intelligent appreciation of the principles which underlie the processes employed are essentials of success.

It is confidently believed, too, that the school offers unsurpassed advantages to boys who desire to prepare for the Lawrence Scientific School, the Massachusetts Institute of Technology, or any similar institution. The manual dexterity and the thorough knowledge of tools, machinery, and mechanical processes acquired in the shops, at an age when time can be most easily spared for such training, is of great value in any scientific pursuit.

But the branches of manual and mental science taught do not compose the whole of a boy's education. The thoughtful man questions methods used, habits inculcated, and standards adopted. Here, too, we have only to look to the boys for an answer. Their gentlemanly manner, self-control, industry, and personal neatness, all testify to the wholesome and stimulating influences which only the discipline and direction of courteous, methodical, and skillful instructors can produce.

Besides the reputation which its educational prestige has

given it, our school has developed features which are calculated to attract popular interest and support. The most interesting of these is the unique fire drill, an application of the methods of extinguishing and preventing fire, ingeniously fitted to the uses of a school drill. The boys, during drill times, hold themselves ready for an alarm, which may come when they least expect it, just as it would happen in ordinary practice. They lay lines of hose, raise ladders, and use life-saving apparatus with skill and speed. Discipline is maintained by frequent military drills, which also afford practice in the management and handling of bodies of men. In connection with these exercises a series of lectures is given by an experienced physician on "First Aid to the Injured." About four hours per week are devoted to the drill during the first year, three hours during the second year, and two hours during the third and fourth years. A part of this time is taken from that assigned to shop work, but somewhat more than half of it is required in addition to the regular school hours. Presence of mind in emergencies is a marked result of fire drill, as well as the development of the finer qualities of respect to superiors, obedience, courage, and tact in managing others.

This article would not be complete without a word about the band, which has been so many times introduced to Cambridge audiences, and has given pleasure as well to thousands of people in other cities, always contributing its share towards good government and no license, and aiding in many charitable undertakings.

The Glee Club, composed of twenty-five bright boys, has been enthusiastically received by many audiences, and without doubt will become as popular as the band now is.

The city is under great obligations to Mr. Rindge for building, equipping, and maintaining this school, for it is developing in our community the material for skillful artisans and engineers, who are destined to exert great influence upon the questions constantly arising between capital and labor, and it is believed that the influence of the intelligent graduates of such schools will do much to solve the so-called labor problem. Cambridge is to be congratulated upon having one of the best-equipped manual training schools in the country.

THE PUBLIC LIBRARY.

By WILLIAM J. ROLFE, Litt. D.

The Public Library had its origin in the Cambridge Athenæum, which was incorporated in 1849 for the purpose of establishing "a lyceum, library, reading-room," etc. The beginning of the library was made in 1855, when Mr. James Brown, of Watertown, bequeathed one thousand dollars to the institution, to be used in the purchase of books; but it was not until November, 1857, that the library was opened to the public.

The next year (1858) the Athenæum sold its building (afterwards used as a city hall) to the city, which obligated itself to contribute at least three hundred dollars a year, for fifty years, to the support of the library, and to maintain it forever "for the benefit of the inhabitants of Cambridge." It now received the name of the Dana Library, in honor of Mr. Edmund T. Dana, who had given the land for the site of the Athenæum building. Later Mr. Dana, by a codicil to his will, left fifteen thousand dollars "for the increase and support of the library;" but the city lost this bequest through legal objections to the form in which it was expressed.

In 1874 the library, for the use of which a fee of one dollar a year had been charged, was made free to the public; and in 1879 the name was changed to the Cambridge Public Library.

In 1875 the library contained seven thousand volumes; in 1885 it had increased to eighteen thousand; and in 1895 to about fifty thousand.

In 1887, when the need of enlarged accommodations had become urgent, Mr. Frederick H. Rindge generously offered to give the city a large tract of land on Broadway, and to erect thereon a public library building. The offer was gratefully accepted, and the building was completed in June, 1889. It contained a book-room, or "stack," capable of holding eighty-five thousand volumes, a reading-room measuring sixty by

CAMBRIDGE PUBLIC LIBRARY.

twenty feet, a delivery-room, and a suite of rooms for the preservation of the works of Cambridge authors and artists and other memorials of the history of the city. In 1894 a new wing was added, which provides a reading-room for children, a catalogue-room and librarian's room, and on the second floor a trustees' room and a large room which is to be used as a reference library of American history.

In the general reading-room there is a selection of about twenty-five hundred volumes of cyclopædias, dictionaries, and other books of reference, which can be consulted without formality by all readers. There are also about a hundred and thirty periodicals, including the leading reviews and magazines, American and foreign, with a select list of newspapers.

The children's room is liberally furnished with juvenile periodicals and books. Scrap-books of pictures are provided for little ones who are not yet able to read. This room, which accommodates fifty readers, is always full in the latter part of the afternoon and all day on Saturdays.

For the convenience of readers at a distance from the library, seven local deliveries have been established, where books can be received and returned three times a week. At the Cambridgeport station, in the Prospect Union building, a small branch library has been formed. At present about twenty-five thousand volumes are annually circulated through these stations.

Another feature of the library system is the school delivery. Teachers in the high and grammar schools are allowed to take ten books each per week, to be used at their discretion among their pupils. The books are carried to and from the schools in baskets. In 1895 the number of volumes thus circulated was 6572.

This, however, does not represent fully the use made of the library by the schools. Many of the teachers use their personal cards to draw books helpful in their work; and hundreds of the older pupils have cards of their own. The English High School is too near the library to need the delivery, and it has its own library of several thousand volumes. Several of the other schools have small libraries that partially supply their wants. The children's reading-room is also an important means of furnishing good reading for the younger school-children.

The juvenile appetite for this intellectual food rapidly grows

with what it feeds upon. The demands upon the school delivery, according to the latest (1895) report of the librarian, show "a large increase." At present, indeed, they exceed the available supply. The report adds: "The greatest need of the library, so far as the schools are concerned, is for more copies of certain books very generally used. From similar grades throughout the city, requests are frequently received for long lists of books on the same subject, and these demands cannot always be satisfactorily met at one time." How they may be met is a problem which the trustees are endeavoring to solve. They regard the library as an integral part of our educational system, and will spare no efforts to bring it into more intimate and sympathetic relations with the schools. They believe that it will tend to lead teacher and pupil outside the narrow range of mere text-book instruction, to which they are apt to confine themselves, and thus to broaden their field of view, to enlarge their ideas, and encourage independent thought and research, and at the same time to cultivate a taste for good literature.

The total yearly circulation, since the opening of the new building in 1889, has increased from about eighty thousand to nearly one hundred and forty thousand volumes. This does not include the use of the reference library in the reading-room, of which no record is kept.

Since March, 1893, the library has been open for readers on Sunday from two to six o'clock in the afternoon. The number of visitors during the first seven months of the experiment (the only period for which I find statistics) was 1754, of whom 687 were under fourteen years of age.

Since January, 1896, a monthly Bulletin has been issued for gratuitous circulation, in which classified lists of additions to the library are given, with brief descriptive and critical notes upon the more important books. Special reading-lists and other matter likely to be useful to students and readers, especially the young, will be added from time to time.

The "Cambridge Memorial Room" is already a considerable library in itself, and is fast growing in value and attractiveness. Three years ago, more than a hundred and fifty native or resident authors were represented on its shelves. The complete works of many of these are in the collection, including not a few rare first editions. Some of the books are enriched with autographs or manuscript notes by author or editor.

Of seventy-nine volumes relating to Henry W. Longfellow, seventy are his own works, three are selections therefrom, and six are biographical. James Russell Lowell is represented by thirty volumes. Among these is an interleaved copy of Worcester's Dictionary, with his name and the date, November 24, 1847, and many manuscript notes from his pen. Oliver Wendell Holmes has eighteen volumes, including his first collection of poems published anonymously.

Among the manuscript rarities are two portfolios of Margaret Fuller's letters and writings, deposited by Col. T. W. Higginson; the "Letters given by the English Longfellow Memorial to the Longfellow Memorial Association of Cambridge," with the autographs of eminent Englishmen interested in obtaining the bust of the poet for Westminster Abbey; and the "Cambridge Light Infantry Orderly Book" of 1815, contributed by Mr. Lucius R. Paige. There are also important manuscripts by Edward Everett, James Russell Lowell, and other authors.

This room is also coming to be a museum of souvenirs and relics connected with local history, some of which are of much antiquarian or artistic interest. A large glass case has recently been added for the old regimental flag presented to the library by the 38th regiment of the Massachusetts Volunteer Militia, to whom it was given by Cambridge women in January, 1864.

Aside from the contributions to the Memorial Room, the library has had many valuable gifts in money and books from Cambridge people. In 1873 it received a thousand dollars by the will of Mr. Isaac Fay, and in 1889 two thousand dollars by that of Mr. Daniel P. Cummings. In 1889 also a fund of about nine thousand dollars for its increase was raised by a citizens' subscription. Among the more important gifts of books may be mentioned about five hundred volumes, chiefly historical, from Mr. Denman W. Ross; more than two thousand volumes (with a collection of paintings, engravings, photographs, medals, coins, etc.) from the estate of Mrs. Anna L. Moering; the rare and valuable medical library of Dr. Morrill Wyman, comprising more than four thousand volumes; about five hundred volumes from the estate of Prof. E. W. Gurney; and one hundred and seventy-seven volumes from the medical library of Dr. C. E. Vaughan. Lists of these and other donations are given in the annual reports of the trustees.

This imperfect sketch of the history and work of the library

must not close without a brief tribute to the memory of Miss Almira L. Hayward, who was its librarian for twenty years (from 1874 to 1894); and for this I cannot do better than to quote a few sentences from the minute entered by the trustees on their records, to express their grateful appreciation of her services: "She was in many respects a remarkable woman. Her conscientious self-devotion was without limit, and long experience had developed in her the very highest qualities of a librarian: knowledge of books, organizing power, and a ready sympathy with students. More remarkable than these traits, perhaps, was the promptness with which she adapted herself to the great enlargement of the library and that transformation of its methods which accompanied its removal to a new building. . . . The plan of an addition to the building, with special reference to the needs of the children, was largely hers; she was spared to see its completion, and met her death while placing the new rooms in order. She died literally in harness, as she always wished to die; and her name will be forever associated with the most important formative period of her beloved institution."

After Miss Hayward's death the care of the library devolved for several months upon the first assistant, Miss Etta L. Russell, who proved herself altogether competent for it, but declined to be a candidate for the librarianship. Mr. W. R. L. Gifford, of the New Bedford Public Library, was elected to the vacancy, and entered upon his duties in March, 1895. The results of his first year's service indicate that this was a happy choice.

The past history of the library is a chapter in her annals of which Cambridge may honestly be proud, and the future is full of promise.

THE PROTESTANT CHURCHES OF CAMBRIDGE.

By REV. ALEXANDER McKENZIE, D. D.

Whoever writes the early history of Cambridge must write of the first churches which were here, and the continuance of the history must include the churches, which have had a goodly part in making the town and the city. The founders of the town were men of the church. The first settlers in these parts had come from a land where the church and the state were closely united, and they intended to keep their places in both while they found homes in this new world. They were loyal to the institutions under which they had been born. Their thought proved impracticable. The first churches in Massachusetts Bay soon severed their connection with the English Church, as the men of Plymouth had done before they left England. Afterwards, the colonies declared themselves independent of the government also. The original plan, to make the town here the metropolis of the province, was abandoned. Still, the settlement was highly respectable. It was one of the best towns in New England, and it is reported that most of the inhabitants were very rich. In England, many of them had been under the ministry of Rev. Thomas Hooker, who was driven from them; whereupon, they sought a new home across the sea, which they trusted he would share with them. They began to make their settlement at Mount Wollaston, and the Court ordered them to come to the New Town. In 1632 a meeting-house was built, and in 1633 Mr. Hooker and Rev. Samuel Stone were made the ministers of the new church. This was the eighth church in the Massachusetts Colony. But in 1636 the ministers and most of the church and congregation left New Town for Connecticut. Some families, eleven or more, remained here. Fortunately for them, another company of about sixty persons had come from England, having Thomas Shepard as their leader. On a mural tablet in the church which bears his name

it is recorded, as it is in Shepard's autobiography, that "Some went before, and writ to me of providing a place for a company of us, one of which was John Bridge." John Bridge was one of those who stayed behind. His statue now stands on the Cambridge Common. A part of the original church thus entered into the new church, which was formed in February, 1636. Thomas Shepard was installed as the minister. It was a notable gathering of the chief men of the colony when the church was organized, and it was a notable event. It was a Congregational church, and in this reconstructed form was the eleventh in Massachusetts. The form of the covenant has not been preserved, but probably it was like the one used in Charlestown and Boston, wherein the members promised to walk "in mutual love and respect each to other, so near as God shall give us grace." That was certainly a very good beginning, and in its seriousness and simplicity was quite in keeping with the purpose of those who founded the colony and the town.

It must be remembered that this was not an isolated event. This was a part of the religious and political movement of the sixteenth and seventeenth centuries which so greatly affected English history, and made the beginning of the new England and so of the American republic. As it has proved, the establishment of a Puritan church here was to be an important fact in the history of the colony, and thus of the nation. It was an embodiment of the spirit of which Dr. Palfrey has well said: "It is as old as the truth and manliness of England."

That church remains the First Church in Cambridge. It is not proposed to recite its annals here. The story has been told more than once. Yet a few things which have marked its past may be repeated. The first meeting-house was not an imposing building. We have no plan of it. But the meeting-house in Boston had mud walls and a thatched roof. This was, we may suppose, very much like that in character, though it was probably built of logs, and in accordance with the law the roof was "covered with slate or board." The chimney could not be made of wood. Thus early were they taking precaution against fire. This house was small and plain, especially if compared with the stately parish churches of England. But it had a rare dignity from the presence of Thomas Hooker and Thomas Shepard, and the earnest exiles who were with them. The people of the town were required to come to the meeting-house

First Baptist
First Parish Unitarian
First Universalist
Old Cambridge Baptist
St. James Church

on the first Monday of every month within half an hour after the ringing of the bell. This would indicate that there was a bell on the house. But when Edward Johnson was here in 1636, he wandered out from Charlestown till he came to a large plain, where he heard a drum. He asked a man whom he met what the drum was for, and was told it was to call people to the meeting-house where Mr. Shepard preached. He found his way to the place, and was so deeply impressed that he resolved to live and die with the ministers of New England. The town and church acquired special prominence when in the same year in which the church was formed the General Court agreed to give four hundred pounds, equal to a year's rate of the whole colony, a grant of fifty cents from each of the four thousand inhabitants, towards a school or college. The next year it was ordered that the college should be here, and in 1638 the college was opened, and Newtown became Cambridge. The college was founded here because this was a pleasant and convenient place, and the town was "under the orthodox and soul-flourishing ministry of Mr. Thomas Shepheard." The college was meant to serve the churches, and to give them a learned ministry when the first ministers should lie in the dust. The ministers of the church had a constant influence in shaping the life of the college; and the presence of the college, with its teachers and students, conferred a rare distinction, which has remained. A very exciting and important matter in the colony was the arrival of Mrs. Ann Hutchinson in 1634. She soon declared some peculiar views, which were deemed erroneous and hurtful. Then came a fierce dissension, and the colony was in dire peril. There was so much confusion in Boston that the General Court met here, and an election was held on the Common. Then an ecclesiastical synod, the first held in America, was called, and met here, in the little meeting-house on Dunster Street, and its sessions lasted for three weeks. Eighty-two of Mrs. Hutchinson's opinions were condemned with great unanimity. We can easily imagine what the people here were talking about in those days. In 1648 the Cambridge Platform was framed. In 1649 Thomas Shepard died, and in 1650 Jonathan Mitchel — "the matchless Mitchel" — became his successor in the church and parsonage, and married the widow, Margaret Shepard. In the Quinquennial Catalogue of the college, at the head of the list for 1647, stands Jonathan Mitchel, A. M.: Fellow. In that year,

1650, the second meeting-house was built on Watchhouse Hill. A very sad event in this pastorate was the declaration of Henry Dunster, president of the college, of his new views regarding the baptism of children. This led to a bitter controversy, which ended in Dunster's resignation of his office and his removal from Cambridge. But he asked that his burial might be in Cambridge, and so it was. By a singular error, the slab which bears the record of his virtues has been for many years over Mitchel's grave. Another incident in this pastorate was the setting off of the people of Cambridge Village, on the south side of the river, and more than four miles from the meeting-house, that they might have separate services. This was strongly objected to, but at last, in 1664, a new church was organized, and it has had a good history as the First Church in Newton. Rev. Urian Oakes was the minister here from 1671 for ten years, and acting-president and president of the college from 1675 to 1681. Rev. Nathaniel Gookin, son of the famous Major-General Daniel Gookin, assisted Mr. Oakes for two years, and followed him as the pastor of the church from 1682 to 1692. In his time, the people of Cambridge Farms, now Lexington, were begging to be set off as a separate precinct, and this was granted in 1691. In 1696 the church at Lexington was formed. Thus the church here was losing on both sides. Rev. William Brattle, a tutor in the college, became the minister in 1696, and remained till 1717. In that time the third meeting-house was erected where the second had been. Then came the long pastorate of Rev. Nathaniel Appleton, from 1717 to 1784. The fourth meeting-house came in his time, and on the old site. An Episcopal church was opened in 1761. During this time Whitefield was arousing the country by his marvelous preaching. In 1740 he came here, and saw many things which displeased him. The college faculty published a pamphlet in reply to his charges, and he modified some of them. He became a friend of the college, and was of service in procuring books for the library. There was still further attempt to reduce the church. In 1732 Menotomy was made a precinct by itself, and in 1739 a church was formed there. From 1747 to 1749 the people in what is now Brighton were seeking to be made a separate religious precinct. This was stoutly resisted, but in 1779 the separate precinct was incorporated, and authorized to settle a minister of its own, and in 1783 a new church was formed.

But the great event of Dr. Appleton's ministry was the Revolution and the beginning of the republic. Cambridge had a conspicuous share in all this work of patriotism. The church had its part in the town and for the country, as from the beginning. The lands of the church appear frequently in the records of this period. There is a catalogue signed "N. A.," and entitled, "Lands belonging to the Church and Congregation in Cambridge for the Use of the Ministry." There are several lots in Menotomy, a lot of twenty acres in Newton, a farm of 500 acres in Lexington. The Newton and Lexington lands were sold in Appleton's time, and the rest later.

The minister was not paid altogether in money. Mr. Brattle wrote in the Church Book: "My salary from the town is ninety pounds per annum, and the overplus money." Afterwards he had £100. There are long lists of donors of wood. The sending of the wood seems to have been discontinued at the time his salary was increased. In 1697 is a long list headed, "Sent in since Nov. 3, the day that I was married. From my good neighbors in town." Then follows an account of articles for his table, with the names of the donors: "Goody Gove, 1 pd. Fresh Butter, 8*d.*; Doct$^{r.}$ Oliver, a line Pork, 2*s.*; Sarah Ferguson, 1 pig, 1*s.* 9*d.*"

Mr. Appleton acknowledges gifts made to him: "My good friends and neighbors have for several years past, in the fall of the year, brought me a considerable quantity of wood gratis, some years between thirty and forty loads, sometimes above forty loads." Then follow the names of the friends and the quantity of the wood they brought. He needed this. The times were hard. He has left a receipt for £3 2*s.* to complete the payment of his salary in continental bills, "although they are exceedingly depreciated." His salary had been £100, and, while the amount was probably but little changed, he gave receipts in one year for £600; and the next year for £750; and in 1783 for £2000 paper currency and £25 silver currency. He lived to be nearly ninety years old. For a few months he had a colleague, the Rev. Timothy Hilliard, who remained the minister of the church till 1790. In January, 1792, Rev. Abiel Holmes became the pastor. He remained the pastor of the church until September, 1831. He died in 1837. Dr. Holmes's pastorate was a period of very great importance. He was well known as a historian, and was active in all public

affairs; he was greatly esteemed in the community, and his name and fame went far abroad.

In 1814 a church was formed in the college, with the assistance of the pastor and delegates of the First Church. All was done in friendliness, but it was a serious withdrawal of men of consequence, and the church must have felt it. The services of the University church were discontinued after the resignation of Rev. Dr. A. P. Peabody. But a much sadder experience came fifteen years later, in 1829, when the church separated from the parish and the meeting-house. It was more than forty years after King's Chapel, in Boston, had become a Unitarian church. Other churches had adopted the new views. At last the crisis came here. The majority of the parish dismissed Dr. Holmes, and the church went out with him. Some members remained in the old house, but the church, acting "as a church in a religious point of view, having the ordinances administered and other religious offices performed," went out with the pastor. There were, then, under the decision of the Supreme Court, the church as a purely religious organization, and that connected with the parish. These have remained distinct, though the relations between them are friendly. They join in the annual Thanksgiving service, and in 1886 united in celebrating the organization of the one church in 1636. The history has been traced to this point with some detail, because it is continuous for two hundred and sixty years, and the church has lived and grown with the village and town and city. The separation of church and parish took place while the meeting-house of 1756 was the common home. It was a famous building. Of this house President Quincy wrote: "In this edifice all the public Commencements and solemn inaugurations, during more than seventy years, were celebrated; and no building in Massachusetts can compare with it in the number of distinguished men who at different times have been assembled within its walls." The names of Washington, Lafayette, Everett, and others, readily come to mind. The remainder of this part of the story can be briefly told. The First Church, under Dr. Holmes's ministry, worshiped for a time in the old court-house. In December, 1829, Rev. Nehemiah Adams was settled as Dr. Holmes's colleague, and he remained as pastor after Dr. Holmes's resignation in 1831, and until 1834. Meantime the house on Mount Auburn and Holyoke streets was erected. Rev. John A.

Albro had a very useful ministry from April, 1835, to April, 1865. In that formative period he was eminent in wisdom and discretion. The present pastor, Rev. Alexander McKenzie, was installed January 24, 1867. The house which is now the home of the First Church was dedicated in 1872. The Shepard Congregational Society, which took the place of the old parish organization, was formed in 1829. The first parish and the church belonging to it remained in the old meeting-house until 1833, when they removed to the meeting-house in Harvard Square. Rev. William Newell became the minister in 1830, and continued in his office until 1868. During this long pastorate, and after his retirement, he was held in high esteem for his learning and his piety, and his fidelity in the duties of his sacred calling. Rev. Francis G. Peabody was the next minister, and was followed by Rev. Edward H. Hall, both of whom most worthily served the church and the community, and are held in warm regard. Rev. Samuel M. Crothers became the minister in June, 1894, and in his care the church is enjoying an ample prosperity. Whoever inquires concerning the present churches of Cambridge will find these, which honor a common ancestry, and are striving to perfect the work which they have inherited.

But he will find much more than this. The town has advanced with the years, and there are many churches where, for nearly one half of our civil life, there was but one. Of necessity the narrative from this point, embracing many churches in the place of one, must be much briefer and more general. The Protestant Episcopal Church was the second of the churches here. Several worthy gentlemen, members of the Church of England, petitioned the Society for the Propagation of the Gospel in Foreign Parts, to appoint a missionary who should perform divine service and administer religious ordinances according to the belief and usage of the English Church. Rev. East Apthorp, a Fellow of Jesus College, Cambridge, England, was proposed, and was appointed in 1759. In 1761 Christ Church was opened for service. In the time of the Revolution service in the church was interrupted, and the house was used for military purposes, though an occasional service was held. In 1790 the house was restored, and it has since been enlarged and adorned. The longest ministry was that of Rev. Nicholas Hoppin, from 1839 to 1874. He stands worthily in this long

pastorate with his friends, Dr. Albro and Dr. Newell. The parish of St. Peter's Church was organized in 1842. Its first house of worship was on Prospect Street. In 1867 the new church on Massachusetts Avenue was opened. St. James's Parish, in North Cambridge, was organized in 1866. A mission of the Protestant Episcopal Church had been sustained in that part of the city for eighteen months, under the charge of the Rev. Andrew Croswell. He was followed by Rev. W. H. Fultz and Rev. T. S. Tyng. In 1878 Rev. Edward Abbott took charge of the parish, and has remained its rector. In 1889 a fine stone church was completed. The parish has enjoyed an increasing prosperity in its enlarged work. There are other Episcopal churches in different parts of the city. The Episcopal Theological School was incorporated in 1867. This is described elsewhere. In other parts of the city Episcopal services are sustained. A few years since a Reformed Episcopal Church was established in Cambridgeport.

Following now the chronological order, early in the century, "the Port," as it was termed, had the promise of large commercial prosperity, and its expansion naturally included churches. That part of the town had been under the parochial care of the First Church and its ministers. Dr. Holmes had visited among the people, distributed hymn-books and catechisms, and tried in all ways to be a pastor to those who had no other. Of course this could not long suffice. A new parish was formed in 1808, and a church in 1809; a meeting-house was opened in 1807. Rev. Thomas Brattle Gannett, who had two good Cambridge names, was the first minister. In the division which came later this church placed itself upon the Unitarian side. The long ministry of Rev. George W. Briggs, D. D., has but just closed, — a man held in reverence by all who knew him. Other Unitarian churches have since been organized in different parts of the city, but only these two are holding services at the present time. The first Methodist Episcopal Society was formed in East Cambridge in 1813, and is doing an important work in that ward, while other Methodist churches are busily engaged in different parts of the city. The Methodists have recently erected a fine stone meeting-house on Massachusetts Avenue. The first Baptist church was formed in 1817, in Cambridgeport, and it is pursuing its work with vigor in Central Square and out from that centre. Every ward of the city has one or more

Baptist churches. The first Universalist church was established in Cambridgeport in 1822, though services under that name had been held in a schoolhouse for some years before. The first pastor was the Rev. Thomas Whittemore, who was widely known in connection with his denomination and in other spheres of activity. The honored and now venerable Dr. L. R. Paige was the efficient minister of this church. Two other churches of this order are doing their work in East Cambridge and North Cambridge. Before the separation of the First Church from the First Parish, but while the controversy which resulted in that was becoming very serious, a second Congregational church was formed, the first of this order in Cambridgeport. This was in 1827. A meeting-house was built on Norfolk Street, and in 1852 a more stately house on Prospect Street, where the church now has its seat. Among its ministers have been Rev. William A. Stearns, one of the most honored and useful citizens of the town, and afterwards president of Amherst College; and the Rev. David N. Beach, who after eleven years of vigorous service, in which the interests of the city have known his influence, has just transferred his work to another part of the land. Other churches have been formed, three in Cambridgeport and one in North Cambridge, and there are thus six Congregational churches in the city.

The history of the Roman Catholic churches will be written by another hand. But it is fitting here also to recognize the Catholic clergymen who have been prominent as useful citizens, and especially those who have joined with their Protestant neighbors in the no license movement, which has been so marked a feature of our municipal life.

In 1888 the services of the New Jerusalem Church were established in Cambridge, and not long after the theological school of that church was removed here. The school is well placed upon Quincy Street. In its chapel there are public services on Sunday, in the care of Rev. Theodore F. Wright, Ph. D., professor and dean of the school.

The First United Presbyterian Church holds its services in a chapel in Inman Square, and the Reformed Presbyterian Church in a hall on Massachusetts Avenue. The Union Methodist Episcopal Church is also holding its meetings in a hall. The Swedes have services for their own people. There are other religious services, in which the preferences and necessities

of good men and women are fully regarded. The colored residents of the city have two Methodist churches and one Baptist church in Cambridgeport, and a mission on Plympton Street, and they are carrying on their useful work with a very generous zeal.

It is not in the province of this article to speak of the various organizations for philanthropic and educational work which may be found in Cambridge. The Social Union, the Prospect Union, the Avon Home, the two Homes for Old Ladies, the Cambridge Hospital, all have their place. The East End Mission, besides its other work, has a flourishing Union Sunday-school. But a more distinct mention should here be made of two institutions whose work is of many kinds, but which give the most prominent place to direct religious service and services. The first is the Young Men's Christian Association, which was organized in 1883, and which has a large and vigorous membership. Its influence will be greatly enlarged when it enters the new building which is at once to be erected. The other is the Young Women's Christian Association, which was formed in 1891. The name indicates its purpose, and its purpose and achievement justify its name. It is doing a broad and much needed work for young women. It has a wide field, and could greatly enlarge its efficiency if it had a building of its own. This is at once its desert and its necessity.

It is evident that any one who wishes to find in Cambridge a place in which he can invest his benevolent energies can readily do so. Any one who seeks here a congenial religious home, a church with whose worship and work he can ally himself, where he can minister and be ministered unto, can without difficulty find it.

It must be remembered by those who would understand our history that Cambridge virtually began as a church. The institutions of religion, at first in simple forms, have been here from the beginning. They have increased with the increase of the town. They have come quietly, as there were those who needed them, and have taken their own place in the life of the community. Indeed, the growth of the town, not merely in numbers but in diversity also, can be very well traced in the successive appearance of the various churches which have arisen. The starting was informal, in a simple Congregational church. When, a century and a quarter later, the Church of England granted the

request for a minister, it was clear that a new element had come into the Massachusetts town, and that others besides the Puritans were here. A change in theological thought, at a later day, is disclosed by the presence of a Unitarian church.

The extension of the town away from the centre is made evident by churches remote from the college. They have come up among new homes in a natural way, and as they were required. The present extension of the city means the forming of more churches where new houses are rising along new streets. The fifty years of our life as a city have given us nearly every house of worship that we have, and every minister. The present form of ecclesiastical life, so far as men and buildings are concerned, and even so far as methods of work are concerned, belongs in a large degree within these fifty years. What the future is to bring it were useless to predict. It seems likely to bring expansion rather than change. But there is every reason to expect that the churches will increase with the growth of the city; that, as in the past, they will share the common life; that they will promote intelligence and virtue, and the best citizenship; that churches and ministers will guard the honor of the city, maintain its laws, and in all ways promote its well-being.

THE CATHOLICS AND THEIR CHURCHES.

By JUDGE CHARLES J. McINTIRE.

For more than tenscore years and ten after Governor Winthrop and his associates sailed up the Charles River and found a suitable spot on which to plant their fortified Newe Towne, the Catholics had not attained sufficient numbers to erect a church within its limits. Up to the year 1842 our citizens of that faith were obliged to attend either the cathedral on Franklin Street in Boston, erected in 1803, or the church in Charlestown, which followed it in 1828.

While the original Puritan settlers of the colony were living, there was little inducement for Catholics to come and abide with them, and if either Miles Standish, William Mullins, his daughter Priscilla, or our own doughty captain and commander-in-chief of the "Newe Towne" forces, Daniel Patrick, ever attended upon the services of the "Roman Church" in any portion of what is now called the "United Kingdom," they certainly never did so here, and they probably said very little of their past experience.

The first record of Catholic worship in the colony is at the time of the visit of Father Duillettes to Boston as a commissioner from Canada, in 1650. He was entertained at the residence of Major-General Gibbons while making negotiations for a treaty of alliance.

From this time there were probably no Catholic services until they were held upon the ships of the French fleet in the harbor during the Revolutionary War, when the people, following the noble example of Washington, had become very tolerant in the presence of Lafayette and the many French, Polish, and other European Catholic officers and soldiers who had espoused our cause of liberty.

At the close of the Revolution the Catholics in and about Boston purchased the chapel on School Street which had been

ST. JOHN'S CHAPEL
SHEPARD CONGREGATIONAL
CHRIST CHURCH
NORTH AVENUE BAPTIST
PROSPECT ST. CONGREGATIONAL

used by the Huguenots, and occupied it until the erection of the church on Franklin Street, under the ministrations of Father Porterie, who had been a chaplain in the French navy, Father Rousselet, and afterwards the Rev. John Thayer, who was a native of Boston and a convert to the faith. In 1792 the Rev. Francis Matignon, who was an exile of the French Revolution, was sent from Baltimore by Bishop Carroll, to aid Father Thayer, and remained down to the time of his death in 1818. The whole of New England was placed under the spiritual guidance of these two priests, and they were constant and earnest workers in the field assigned to them. Doctor Matignon was a pious, profound, and talented scholar, and a refined and accomplished gentleman. He endeared himself so much to the people that his death was sincerely mourned by all classes and creeds.

In 1796, through the solicitations of Father Matignon, the Rev. John de Cheverus, who had also been driven by the revolutionists from France, and had been in England since 1792, came to this country. He first went among the Indians as a missionary, but in 1798 he joined Father Matignon, and aided in the erection of the church on Franklin Street, which was afterwards to be his cathedral, and the first in New England. Generous contributions for this structure were made by Protestant citizens, among others by John Adams, then President of the United States.

In 1808 New England was severed from the diocese of Baltimore, Boston was erected into an Episcopal see, and Dr. de Cheverus made its first bishop. He remained in charge of this diocese until 1823, when he returned to his native country as Bishop of Montauban. A few years later he was created Archbishop of Bordeaux, Cardinal and Peer of the Realm.

Cardinal Cheverus was a noble and charming character. He was learned, but not pedantic; firm and decided, yet amiable, benign, and meek. He delighted in the company of children, who were his constant companions. A scholar and a polished scion of a noble family, it was his constant practice to go unattended among the poor and sick, look personally after their needs, and make them forget their afflictions and poverty by his example of charity and humility.

In 1825 the Rev. Benedict Joseph Fenwick was appointed Bishop of Boston, and was consecrated on November 1. He

was a native of Maryland, and a descendant of one of the early English settlers under Leonard Calvert. He, too, was a profound scholar, a wise and prudent counselor, and a humble and zealous prelate.

Down to the year 1793 the Catholics of Cambridge were obliged, in order to attend their church, either to row across the river, or to go around through Roxbury, entering Boston by the way of "The Neck," which latter journey was eight miles in length, as Abraham Ireland measured it, and marked it upon the milestone which now stands inside the fence of the old burial ground at Harvard Square; for there was no other bridge until the West Boston Bridge was constructed in that year.

ST. JOHN'S PARISH, AND CHURCH OF THE SACRED HEART.

In 1828 Cambridge was made a part of the parish of Saint Mary's Church at Charlestown, and her people attended services in the church of that name upon Richmond Street, placed under the charge of Father Byrne, — the bridge between East Cambridge and Boston having been completed in 1809, and that to Prison Point in Charlestown in 1819. A Sunday-school was organized about 1830 in the Methodist Academy building, at the corner of Otis and Fourth streets, and Mr. Daniel H. Southwick was its first superintendent. The children, after their lessons on each Sunday, were formed in line and marched to the Charlestown church, to take part in the services there.

About the year 1836, in consequence of the erection of the new bridge, the glass works, and the pottery works, which had been established, a number of Catholic families had gathered at Lechmere Point (or East Cambridge), in Cambridgeport, and Somerville, and on June 11 of that year Mr. Southwick secured a small parcel of land, twenty-five by one hundred feet, on the westerly side of Fourth Street, near Otis Street, and conveyed it to the bishop on July 29, with the intention of securing more and erecting a church. No general action, however, was taken in the matter until January 17, 1842, when the parishioners were called together to take into consideration the propriety of erecting a new church. This meeting was held at the Academy building, and it was voted necessary to erect a church at East Cambridge. A committee of three was appointed to wait upon the bishop and inform him of their action, and to ask the services of a priest. Thirty-six hundred dollars was

subscribed at this meeting, and it was adjourned to meet on the 30th. On the 30th Bishop Fenwick, the Rev. John B. Fitzpatrick, and Rev. P. Byrne met with them; they were encouraged to pursue the work so well begun, and Father Fitzpatrick was assigned to assist them and to become their pastor.

Messrs. Southwick, Gleeson, John W. Loring, Lawrence B. Watts, and James Casey were appointed a building committee, and Messrs. Southwick, Loring, and Gleeson a committee to select and secure a site. A lot on the easterly side of Fourth Street, near to Otis, was secured, and, at a meeting held on February 20, it was voted that the name of "St. John's Church" be given to the structure to be erected. On March 19 the deed of a lot of land seventy by one hundred feet from Amos Binney to Bishop Fenwick was passed. The building committee commenced and vigorously prosecuted their work, so that services were held in the basement October 9, by Father Fitzpatrick. On September 3, 1843, the structure, being complete, was dedicated by the bishop.

Father Fitzpatrick remained as pastor until early in 1844, when he was made coadjutor-bishop of the diocese, and returned to Boston. The parish, as originally constituted, comprised the entire towns of Cambridge and Somerville. On April 22, 1844, the Rev. Manasses P. Dougherty was appointed pastor, and on August 11, 1846, Bishop Fenwick died, and was succeeded by Father Fitzpatrick, his coadjutor, who had been the first priest of the first Catholic church in Cambridge.

In 1847 Woburn was added to the parish, and Father Magrath was sent as an assistant. At this time the Catholic population had become so numerous in Old Cambridge that they desired to have a church of their own, and Father Dougherty was commissioned to erect one there, and take charge of a new parish comprising the territory now known as Old Cambridge and North Cambridge. He left St. John's parish in November, 1848, and in December held services for the first time in his new church of St. Peter. The Rev. George F. Riorden succeeded Father Dougherty in November as pastor of St. John's, and remained until December, 1851, when he was succeeded in turn by the Rev. Lawrence Carroll, who with patience, ability, and zeal devoted himself constantly to the needs of his large and increasing parish up to the time of his decease on November 23, 1858. He is remembered as one of

the kindest and most genial of men, who filled the atmosphere about him with his cheerful presence. Seventeen days before his death, his assistant, Father Farren, who had been with him for about a year, but all the time in poor health, had also died.

During the illness of Father Carroll, and after his decease, until January 7, 1859, the Rev. George F. Haskins acted as temporary pastor; on the latter date, the Rev. Francis Branigan received the permanent appointment. He remained about two years, and during that time purchased land and commenced the erection of St. Mary's Church in Cambridgeport. In December, 1860, he resigned, and died soon after. For a number of months the parish was without a permanent pastor, during which period its spiritual wants were supplied by the Rev. Joseph Coyle. He died on November 21, 1862.

Early in 1862 the Rev. John W. Donohue was appointed, and assumed the duties of pastor. In 1866 the Cambridgeport parish was set off. In 1870 Somerville was created a separate parish, reducing the parish of St. John's to its present dimensions, comprising the whole of East Cambridge and that part of Cambridgeport which lies between the Grand Junction Railroad, Windsor Street, and the Broad Canal.

The number of the parishioners continued to increase so rapidly that the church on Fourth Street could not sufficiently accommodate them, and in 1872 Bishop Williams, the successor of Bishop Fitzpatrick, bought a lot of land on Spring Street for the purpose of erecting a new church, but the health of Father Donohue did not permit him to pursue the work, and he died on March 5, 1873. During the eleven years of his pastorate the affairs of the parish were well conducted, and never was St. John's Church in a more prosperous condition than at the time of his decease. Fathers Rossi and Shinnick were his assistants.

On the 8th of March the Rev. John O'Brien was taken from Concord and appointed to the parish of St. John's, the bishop recognizing in him the eminent qualifications necessary for the charge of this parish and the erection of a new and spacious church, such as was contemplated. After a meeting of the parishioners, when it was found that the lot purchased by the bishop was unsuited in some particulars, a site at the corner of Otis and Sixth streets was secured, and purchased on July 23. No delay was made, and the foundation was finished and

the corner-stone of the new edifice laid on October 4, 1874. On January 28, 1883, the entire structure was completed and dedicatory services held.

This is the "Church of the Sacred Heart," the largest and handsomest Catholic church in the city, of the decorated Gothic style, seventy-five by one hundred and fifty feet in dimension, built of blue slate with trimmings of granite. The nave is sixty-five feet high, and the spire one hundred and eighty feet. There is a seating capacity of eighteen hundred, and the beautiful and artistic Gothic altar of Caen stone was especially modeled in London by eminent sculptors. It stands fifty feet in height, and contains four groups of figures, representing the life of the Saviour, sculptured in almost human size. This parish numbers between twelve and fifteen thousand souls. Father O'Brien is still the pastor in charge, and is assisted by five curates.

THE PARISH OF ST. PETER'S CHURCH.

As before stated, in the year 1847 the Rev. Manasses P. Dougherty, while pastor of the parish of the Church of St. John, in East Cambridge, recognizing the necessity of church facilities for those of his flock who were settled in the northern part of the city, secured a site upon Concord Avenue, and commenced the erection of a church, to be called after St. Peter. This building had progressed so rapidly that in November, 1848, Father Dougherty gave up his charge of the parish of St. John's for the parish set off from it, and in December of that year services were held in his new church, which was consecrated in 1849. Father Dougherty continued as pastor of this parish until his death in July, 1877. He was greatly esteemed in and beyond his parish for his generosity and piety.

The Rev. James E. O'Brien was appointed to take charge in the same month as the decease of Father Dougherty, and he remained in charge until death removed him in July, 1888, when he was followed by the present pastor, the Rev. John Flatley, who is assisted by Fathers Doody and Flaherty as curates. Father Flatley has been most assiduous in his pastoral duties, and is held in high esteem and veneration. Through his constant efforts and encouragement three new parishes have been created within the past six years out of the territory of St. Peter's. They are known as St. John's, on Rindge Avenue, North Cambridge; Notre Dame de Pitié, the French

congregation in the same locality; and the Church of the Sacred Heart, which is on the border of Cambridge, in that part of Watertown known as Mount Auburn. St. Peter's parish has a population of about twenty-five hundred people.

THE PARISH OF ST. MARY'S CHURCH, NORFOLK STREET.

This parish was created partly from St. John's and partly from St. Peter's. It was set off and made an independent parish in the year 1866. In 1860 the Rev. Francis Branigan, as pastor of St. John's, purchased land at the corner of Harvard and Norfolk streets, and it was his intention and desire to erect a church for those of his people who resided in that locality; but his illness and resignation, which soon followed, interfered with the project, and it was delayed until the bishop gave permission to Father Dougherty, of St. Peter's, to go on with the work. He organized the new parish early in 1866, commenced to lay the foundation of a church on June 7, and the corner-stone was laid by Bishop Williams July 15 of that year. Father Dougherty performed the duties of pastor of this church and congregation, together with those of his own, until May, 1867, when the parish was given to the Rev. T. Scully, who took formal charge June 9, 1867. The work of completing the church building was pushed vigorously by him, so that the structure was ready for the services of dedication on Sunday, March 8, 1868. Since 1867 he has remained the pastor, and the parish has from time to time added largely to its property, including a convent school for girls in charge of the sisters of Notre Dame, a school for boys, a hall for parish purposes, and a gymnasium. The population belonging to this church numbers between twelve and fifteen thousand.

THE PARISH OF ST. PAUL'S CHURCH, MOUNT AUBURN STREET.

A few years after the erection of St. Mary's church in Cambridgeport, Father Dougherty saw the necessity of another church building to accommodate his rapidly increasing parishioners properly, and in 1873 he accordingly purchased the meeting-house at the corner of Mount Auburn and Holyoke streets, which had long been used by the Shepard Congregational society. After some alterations he opened it for worship during the same year, and gathered as its congregation about two

thousand souls. In 1875 it was set off as a separate parish, with the Rev. William Orr as its resident pastor.

Father Orr, assisted by two curates, Fathers Coan and Ryan, is still directing its affairs. He has added the property on Mount Auburn Street, known as the "Gordon McKay estate," and erected a large school upon it. He contemplates within a short time placing also upon this site a commodious new church. This parish now numbers about four thousand.

THE NEW ST. JOHN'S PARISH, RINDGE AVENUE.

The rapid increase of the congregation of St. Peter's church had again made that structure too small at the time Father Flatley was appointed to be its pastor, and soon after taking charge of the parish, he began to interest his people to secure additional facilities for worship. A lot was purchased upon Rindge Avenue of sufficient size for a church and convent school, and in the summer of 1890 work was begun upon the chapel and school building. The chapel was completed in February, 1892, and has a seating capacity of eight hundred.

Father Flatley continued to attend to the religious needs of the congregation until the district was set off and a parish created on January 1, 1893, when the Rev. John B. Halloran was appointed its pastor. He still remains in charge, and has one assistant, Rev. Michael Welch. All that part of Cambridge which lies north of the main line of the Fitchburg Railroad, together with West Somerville, is contained in this parish, which numbers almost three thousand souls.

THE CHURCH OF NOTRE DAME DE PITIÉ, HARVEY STREET.

The brick-making and other industries of Cambridge and Somerville have caused the collection of large numbers of French-speaking Catholics from the Canadas in the northern portion of our city and in Somerville. These people, feeling themselves sufficiently strong to constitute a separate congregation, obtained permission from the archbishop to erect a church, and work was begun in June, 1892. It was completed and the building dedicated on December 8, 1892. The Rev. Elphege Godin, S. M., was its first pastor. He was followed by the Rev. Stephen Artland, S. M., and by Rev. T. J. Rémy, S. M. The present pastor is the Rev. Henri Audiffred, S. M., appointed in October, 1895. The capacity of this church is six

hundred. Last year a parochial residence was erected. The congregation is composed of the French-speaking people of Cambridge and Somerville, and is fast increasing in numbers.

THE NEW CHURCH AND PARISH OF THE SACRED HEART, AT MOUNT AUBURN.

This parish was taken from Cambridge and Watertown, and is bounded in Cambridge by Coolidge, Elmwood, Lexington, and Concord avenues. The church building is in Watertown, but the larger portion of the congregation are inhabitants of Cambridge. On August 27, 1893, the corner-stone of this edifice was laid, the construction having been placed in charge of the Rev. Robert P. Stack, of Watertown. This church is not yet completed, though services have been held there since January 1, 1894. After the decease of Father Stack, the Rev. Thomas W. Coughlin was appointed its pastor, and a parish was created January 1, 1896. Capacity, five hundred. Catholic population of parish, seven hundred and fifty.

THE CATHOLIC UNION.

The Catholic Union was founded in 1894; its purpose is literary and social, and to improve the Catholic people of Cambridge. It has a membership of two hundred and fourteen, and during the winter lectures on Catholic subjects are given, and they are open to the public. Edmund Reardon is president, and William M. Wadden recording secretary.

TEMPERANCE AND CHARITABLE SOCIETIES.

Each of the several Catholic parishes in Cambridge has a temperance society, and also a branch of the society of Saint Vincent de Paul for the relief of the poor, and all these are quietly and assiduously doing good work. The temperance society in East Cambridge was founded by Father Matthew himself in December, 1849, upon his visit to this country, and is named after that great apostle of temperance. It is the oldest and largest in the archdiocese, one of the oldest Catholic total abstinence societies in the United States, and has been the example and mainstay of the temperance cause among the Catholics in Massachusetts from its beginning. It has a present membership of about three hundred and fifty, which includes some of the best business and professional men in the parish.

CONCLUSION.

The foregoing shows the rapid growth of the Catholic population in our city. When the charter was granted in 1846, there existed but one Catholic church, and this had been erected less than four years, and seated only about six hundred people. There were then fourteen Protestant churches, two of which had been founded as far back as 1636. In the present year of 1896 there are seven Catholic and forty-two Protestant churches and chapels, and the Catholic population numbers about thirty-five thousand.

Few of all these people can trace their lineage in this country further back than two or three generations, yet all are numbered among the most ardent lovers of our country and its institutions. The proportion of Catholic soldiers from Cambridge in the late war much exceeded their ratio of the population. Our Catholic citizens have lived together with their Protestant brothers as children, youths, and adults, in amity and peace; have sat by them in the same schools and university, entered into friendly competition in the same pursuits, and fought by their side both in battle and political strife; men, women, and ministers of every creed, hand in hand, have engaged in the same charities, and in struggles for temperance and for good government. In Cambridge, since it became a city, there has existed the greatest charity between Catholics and Protestants, the most intelligent of both being conspicuous for their example of good-will and toleration; each freely granting to the other perfect freedom of conscience and of worship according to their faith. This example is one to which the citizens of our beloved municipality are proud to call attention, for it forms a part of what has been styled, and is widely known as, "The Cambridge Idea."

THE EPISCOPAL THEOLOGICAL SCHOOL.

By THE REV. GEORGE HODGES, D. D., Dean.

The group of buildings on Brattle Street, between the Washington Elm and Craigie House, reminds many visitors of the beauties and delights of Oxford, or of that other Cambridge from which this takes its name. The green quadrangle, with the chapel and the refectory on one side, the library at the end, and Lawrence Hall on the other side, and with the great tree in the midst, about which Mr. Longfellow wrote a sonnet, has all the academic quiet and scholarly seclusion of those fair gardens of the elder universities which are set beside the Isis and the Cam. There is this difference, however, that while the old quadrangles are quite shut in, so that the passer-by gets but a glimpse of them through the wicket of a gate, this is fairly and generously open to the street, in symbol, as Bishop Lawrence used to say when he was dean, of the teaching of the school.

The year 1867, in which the school was founded, was notable in the annals of the Episcopal Church as that in which a declaration condemnatory of ritualism was put forth by twenty-four bishops. It was a declaration of independence. It maintained that "no Prayer Book of the Church of England in the reign of whatever sovereign set forth, and no law of the Church of England have any force of law in this church such as can be justly cited in defense of any departure from the express law of this church." In this year, while ritualism and sacerdotalism were engaging the anxious attention of good people in the Episcopal Church, Mr. Benjamin Tyler Reed, of Boston, "desirous of founding at Cambridge within the State and Diocese of Massachusetts, a Theological School for the purpose of educating young men of competent talents, pure morals, and piety for the Christian Ministry, in accordance with the doctrines, principles, and polity of the Protestant Episcopal Church

ST. JOHN'S EPISCOPAL SCHOOL.

in the United States of America," appropriated to that end the sum of one hundred thousand dollars. The phrases of the formal statement are not to be read merely in their conventional sense. Every word was weighed. The school was to be American and not English, and was to uphold the great truths of the Reformation. It was the purpose of the founder that the teachings of the school "shall at all times embody and distinctly set forth the great doctrine of justification by Faith alone in the Atonement and Righteousness of Christ, as taught in the 'Articles of Religion,' commonly called the thirty-nine articles, according to the natural construction of the said articles (Scripture alone being the standard) as adopted at the Reformation, and not according to any tradition, doctrine, or usage prior to said Reformation, not contained in Scripture."

The school was, therefore, set to train men for the ministry of the Episcopal Church who should be learned in the Scriptures and in sympathy with American institutions, and against all attempts at ritualism and sacerdotalism. The institution was established at Cambridge on account of the advantages to be had from the near neighborhood of Harvard College.

In order to secure the perpetual maintenance of Mr. Reed's good purposes, and to remove the future of the school from the changing fortunes of church parties, a board of lay trustees was chosen, made up of men in sympathy with these purposes and having power to fill vacancies in their number. This wise provision has been approved by the experience of nearly thirty years. The school is doing to-day the work for which it was planned; so that Bishop Brooks said of it: "We may well be specially and profoundly thankful that we have in our great seminary at Cambridge a home and nursery of faith and learning which no school in our Church has ever surpassed. Full of deep sympathy with present thought; quick with the spirit of inquiry; eager to train its men to think and reason; equipped with teaching power of the highest order; believing in the ever-increasing manifestation of the truth of God; anxious to blend the most earnest piety with the most active intelligence; and so to cultivate a deep, enthusiastic, reasonable faith; the Cambridge school stands very high among the powers which bid us hope great things for the work which the servants of Christ will do for his glory and the salvation of the world in the years to come."

St. John's Memorial Chapel was built in 1869, by Mr. Robert Means Mason. Lawrence Hall, completed in 1880, is the gift of Mr. Amos Adams Lawrence. Reed Hall, containing the library, was built in 1875, by the founder, Mr. Reed. Four years after, Mr. John Appleton Burnham built Burnham Hall, the refectory. In 1893 Winthrop Hall was built by friends of the school, and was named after the Hon. Robert C. Winthrop, who until his death was president of the board of trustees of the school. The Deanery was given to the school by Mrs. Gray, after the death of Dean Gray.

The first dean was the Rev. Dr. John S. Stone, who served the school from 1867 to 1876. Dean Gray followed him, from 1876 to 1889. The next dean was Dr. William Lawrence, now Bishop of Massachusetts. He was succeeded, upon his election as bishop, by the present dean, Dr. George Hodges.

Of the professors, Dr. Allen and Dr. Steenstra have been with the school since the beginning; and Dr. Nash, Dr. Kellner, and Mr. Drown were educated at the school. Dr. Wharton and Dr. Mulford, past professors, are remembered by writings which still live. The graduates of the school, numbering about two hundred, are at work in more than thirty dioceses. The average number of men in the school is about fifty.

THE NEW-CHURCH THEOLOGICAL SCHOOL.

By REV. THEODORE F. WRIGHT, Ph. D.

This institution was first suggested at the convention of the New-Jerusalem Church in 1866. Up to that time the ministry had been supplied almost wholly by accessions from other religious bodies, but it was then found that young men were growing up with a desire to be thoroughly prepared in a distinctive school. Beginning with a summer class, and going on very modestly without a place of its own until 1889, the school then took its present position. The commodious residence of the late President Sparks was first purchased, and to this the Greenough estate was added two years later. The grounds thus extend along Quincy Street from Cambridge to Kirkland streets, and room is afforded for new buildings.

The first of these will undoubtedly be a chapel. Services have been held in the lower rooms of the Sparks house, and the congregation is, for its size, an active one, assisting in all work for the moral welfare of Cambridge. A good beginning has been made towards the creation of a chapel fund.

At the time of removal to Cambridge some regret was kindly expressed because a separate system of instruction had been adopted instead of the endowment of a chair in the Harvard Divinity School; but the principles of the New-Jerusalem Church are such that a separate school seems to be a practical necessity. Thus the sacred Scriptures are held to be fully divine, although outwardly adapted to people of the past. Again the reality of the spiritual world — a doctrine held in connection with utter abhorrence of spiritism — is a fundamental tenet. Neither the Unitarian nor the Trinitarian view of the Divine Being is held; but He is believed to be of one person, with the attributes of Father, Son, and Spirit united in Him as are the soul, the body, and the outgoing life in man. The title "New-Jerusalem" is not used in an exclusive sense,

but as descriptive of Christianity freed from the material conceptions of the past. Emanuel Swedenborg is regarded as a divinely authorized interpreter of the Scriptures to the rational mind of this age. This interpretation he everywhere rests on the basis of science, which, in its essential form, he understood before he advanced to philosophy.

The curriculum of the school is arranged for three years; the Scriptures in the original tongues are studied through the course; the spiritual interpretation of Scripture, the history of religion, the New-Church theology, and the work of the ministry are the principal subjects of study.

There are, as yet, no endowed professorships, but the teaching is done by persons selected from time to time, for their general fitness. The management is in the hands of a board appointed by the general convention in the United States. The president is the Rev. James Reed of Boston (H. U. 1855); the writer (H. U. 1866) is in immediate charge, and resides upon the Greenough estate.

Students in residence generally live in the Sparks house, which has also two lecture-rooms. Beside the students in Cambridge, there are some who follow the course in their distant homes, especially as a test of their fitness to become regular students.

The school gives its diploma to full graduates; other students receive a certificate of work performed.

The funds of the school, like all else in connection with it, are merely sufficient for present needs; but, as the chairman of the trustees, Chief Justice Mason, lately said, "Our school is not rich, and it is not poor."

At the time when the Cambridge location was decided upon, such generosity as the university has shown was not expected; but the original good reasons for the step have been augmented by the general kindness which has been shown to the school by all with whom it comes into contact.

NEW CHURCH THEOLOGICAL SCHOOL.

THE ASSOCIATED CHARITIES OF CAMBRIDGE.

By WILLIAM TAGGARD PIPER.

The Associated Charities of Cambridge owes its beginning to Dr. Charles E. Vaughan, who, being an overseer of the poor, and also interested in other benevolent work, saw the need and the opportunity for an organization which should investigate applications for relief, record the results of such investigation, furnish the information thus obtained to those who were engaged in relief work, and should also endeavor to improve the condition of the unfortunate through the suggestions and advice of volunteer visitors.

To carry out all these objects is the aim of the Associated Charities, and to form such a society Dr. Vaughan arranged for a meeting in the spring of 1881. At a meeting held later a committee was formed of which Mr. J. B. Warner was chairman; Dr. Ephraim Emerton, secretary; Mr. Henry N. Tilton, treasurer; and the members came from all parts of Cambridge. A somewhat more formal organization was made in December of that year. Miss S. A. Pear was appointed registrar to record and furnish to those interested the facts learned through investigation, and an office was provided by the city in the Central Square building in Cambridgeport.

As a necessary complement to the registration, the work of visiting those in distress was begun in the spring of 1882, and, to enable the visitors to compare their experience and to get the advantage of mutual advice, a conference was formed in Old Cambridge in April, another in Cambridgeport in May, and one in North Cambridge in May, 1884. These have met regularly twice each month since their organization (except during the summer), and have done some remarkably good work. A similar conference was formed in East Cambridge in the spring of 1894, so that the whole city is now included in the system of friendly visiting, so far as the comparatively small number of visitors will permit.

The society was incorporated January 16, 1883, and the late Dr. A. P. Peabody was chosen president. He was succeeded by Mr. J. B. Warner in October, 1884, and by Rev. E. H. Hall in 1891; after Mr. Hall's resignation, Rev. Dr. Edward Abbott was elected president, and now holds the office. Mr. William Taggard Piper succeeded Dr. Emerton as secretary in March, 1882, and he was followed in 1889 by Mr. Arthur E. Jones, the present secretary.

Dr. Vaughan performed invaluable service as director until his departure for California, in 1895; and Mr. John Graham Brooks has made his special knowledge in the field of organized charity and social questions of great advantage in the enlargement of the work now being effected.

In March, 1883, Mr. J. Watson Harris was appointed paid agent of the society with especial reference to the needs of the Cambridgeport conference; after more than twelve years of faithful service in this capacity, he resigned in November, 1895. Miss Pear's conscientious and valuable labors continued until her resignation was accepted in February, 1895. In the following month Mr. Francis S. Child was installed as general secretary, in charge of the central office, where he has worked with the utmost devotion for the past year, resigning at its close. Miss Mary L. Birtwell, who has been registrar for the last six months, succeeds him. Last July the central office was removed to 671 Massachusetts Avenue.

In order to furnish employment to many men who were out of work through no fault of their own, a wood-yard was established on Broadway, corner of Brewery Street, and was carried on under the supervision of a committee of three directors during the winter of 1893–94. Since those who were citizens could be employed by the city, men who had not been naturalized were almost the only ones who worked here. The employment provided enabled them to earn something for themselves and their families, and prevented their receiving alms. This enterprise was conducted in coöperation with the Citizens' Relief Committee and the Overseers of the Poor, and though, as was expected, it did not succeed financially, it accomplished its purpose industrially. It was decided to provide, during the winter of 1895–96, a work test in order to discriminate among those who said that they were looking for work, and an opportunity for unskilled labor was furnished at the City Sewer Yard.

About one half of those sent to the yard have done the stint marked out, and have received in payment a substantial meal.

In order that persons who ask for food and lodging in the evening might be referred to some place where they could be cared for if in real need, the central office has been open during the winter from eight to nine P. M.

The Associated Charities will reach its highest efficiency only when all benevolent individuals and organizations coöperate fully with it, by reporting regularly all applications for relief, all that is known about the condition and history of the applicants, and the relief given or the decision reached in each case. Then can the Associated Charities of Cambridge fulfill the promise that every applicant for assistance of any kind, whose case is referred to it, will, if his need be genuine, receive relief from a single individual or society in the form and amount best suited to his circumstances and requirements; that there will be no duplication of relief; and that impostors will be prevented from living on misplaced charity. It must not be forgotten that the Associated Charities itself does not give alms, except in the most urgent distress, but aims to discriminate among the applicants, and to see that relief is furnished to those in real need so far as the resources of the societies and individuals working in harmony with it will allow.

From the first the coöperation requested has been given by the Overseers of the Poor, and to a smaller extent by some of the churches and benevolent organizations. The more extensive and complete this is, the more satisfactory will be the work that the Associated Charities can accomplish; and under the skillful, trained direction of the general secretary, it is confidently expected that the coöperation, which has been steadily growing the past year, will continue to increase.

Up to March, 1895, the expenses averaged a little over $1100 a year, principally for the salaries of the registrar and paid agent. Since then the increase in the amount of work and the employment of more experienced officials has increased the expenditure for salaries, while the cost of rent, printing, and postage is much larger, so that it is estimated that from $3000 to $4000 annually will be required to carry on the work satisfactorily.

THE AVON HOME.

By WILLIAM TAGGARD PIPER.

THE Avon Home "for children found destitute within the limits of Cambridge" was founded by the generosity of a resident of Cambridge in accordance with a long-cherished plan. It was opened on May 30, 1874, in a house on Avon Place near Linnæan Street, which, with its furniture and what was expected to be an ample endowment, was transferred to the corporation of the Avon Place trustees in November of that year.

The original board of trustees consisted of Mrs. Henry W. Paine, president; Rev. D. O. Mears, treasurer; Miss Irene F. Sanger, clerk; and Dr. Andrew P. Peabody, Mrs. Joseph Lovering, Mrs. W. T. Richardson, Mrs. Henry Thayer, Mrs. J. M. Tyler, and Mrs. B. F. Wyeth. Dr. Peabody succeeded Mrs. Paine as president, and at the time of his death in 1893 was the last one of the original trustees; Mr. William Taggard Piper was chosen to succeed Dr. Peabody. Mrs. John Bartlett and Miss Maria Murdock respectively followed Miss Sanger as clerk, and Mrs. J. M. Tyler and Miss Mary A. Ellis succeeded Mr. Mears as treasurer. Four trustees were added in November, 1875, and in January, 1886, the number was increased to seventeen. In 1891 the name of the corporation was changed to "The Avon Home."

The endowment was in the form of securities, which unfortunately proved to be of little or no value, and soon after the opening of the Home the trustees were compelled to call on their friends for contributions to enable them to carry on this work which was so pressing. Their appeal was answered, and it is worthy of record that during the whole period of the existence of the Home no debt has ever been incurred. In 1878 an adjoining lot on Avon Hill Street was given by the Holly Tree Inn, and in the following year the house was enlarged so that from twenty-five to thirty children could be accommodated. In 1879

a gift of $300 from the Cambridge Horticultural Society was received, of which only the income could be spent, and this formed the beginning of a permanent fund, which has since been increased by legacies and gifts.

Since it was impossible even to consider more than two thirds of the applications for admission, owing to the insufficient accommodations, the trustees, in the autumn of 1889, asked for subscriptions with which to build a larger and more convenient house on Avon Hill Street. Nearly the desired amount had been subscribed when some of the friends of the Home, thinking that a better situation should be provided, urged that an appeal for that purpose should be issued. The result of this was so satisfactory that land was purchased on Mount Auburn Street, nearly opposite the Cambridge Hospital, and a handsome, commodious building was erected large enough to accommodate forty children comfortably. This was completed and occupied in December, 1891, and by the sale of the estate on Avon Place in the following summer the trustees avoided the possibility of any indebtedness. The land, nearly 70,000 square feet, cost $13,952.75, and the house $21,740.78; a fire-escape was afterwards added, making the total cost $36,239.51.

In 1892 the founder of the Home showed his continued interest in its prosperity by the gift of a farm of one hundred and twenty acres in Concord, Mass., which it is his desire, as it is the wish of the trustees, to use for the older boys, where they may learn farming and other outdoor occupations, or for the more delicate little children, where they may get a change of air. At present this cannot be done on account of the great additional expense, and the farm is rented.

The cost of maintenance is now over $5000 a year; the greater part of this is met by the income from the invested funds, by the proceeds of fairs, and by the small amount of board which is required from those parents who are able to pay anything. From annual subscriptions and donations is received less than $2000, — not a large amount to be contributed by the citizens of Cambridge for the support of the only Home exclusively for Cambridge children, where no distinction is made as to race or religion. The children attend the public schools and public kindergarten, go to church regularly, and since the number is limited to forty, they are treated in every way as the members of a large family.

In this attempt the trustees have been ably seconded by the remarkable ability of Mrs. Melick, who has been the matron since May, 1886, and to her much of the credit for the successful management of the Home is due. For many years the ladies who have served as trustees have given invaluable assistance by their unwearied interest and careful attention to all the numerous details of the institution.

Three hundred children have been cared for at the Avon Home in the last twenty-two years; their stay has been for different periods, varying from a few days to eight years. Some have been foundlings or orphans, for whom after a time homes have been provided where they might be adopted and brought up as if belonging to the family; others have been surrendered to the trustees and similarly placed. By far the largest number have been cared for temporarily during some crisis in the family, and when this had passed the parents or relatives were able to care for them.

The children who have stayed at the Home long enough to receive much benefit from its influence have all, so far as known, turned out well; one is in California, others nearer Cambridge, but most of them are still in the city or the immediate neighborhood, and all are proving respectable citizens.

THE PROSPECT UNION.

By REV. ROBERT E. ELY, President.

The object of the Prospect Union is to bring as many as possible of the advantages of Harvard University within the reach of workingmen through evening classes taught by Harvard students, and through lectures by members of the Harvard Faculty and other persons. There is in Cambridge, particularly in Cambridgeport, a large population of wage-earners. In Cambridge reside also a large number of Harvard students. Students were formerly often regarded with unfriendliness by workingmen, and the life of the average wage-earner was quite outside the knowledge of the average Harvard student. The Prospect Union has attempted to bring students and wage-earners into friendly relations, and to get them to understand and to help each other. The Union was named from the Prospect House Building on Massachusetts Avenue near Central Square. In this building the Union began its work in January, 1891, under the leadership of Rev. Robert E. Ely and Professor Francis G. Peabody, of Harvard. Its beginning was so small as to be insignificant, but the little group of workingmen and Harvard students increased rapidly, and there has been a constant and encouraging growth ever since. Finally the Prospect House no longer afforded adequate room, and a change of location was necessary. The old city hall was taken at a nominal rental in the fall of 1894, and a year later became the property of the Union. This building is well adapted to the work now carried on there, and has been renovated recently. In it reside the president of the Union and four of his co-laborers. The Prospect Union, therefore, is not merely a workingmen's college, but is also something like a "college settlement."

Classes are held every evening of the week except Wednesday, in a great variety of subjects, ranging from the most elementary instruction in the English branches to foreign lan-

guages, ancient and modern, history, political economy, the natural sciences, the higher mathematics, drawing, and such studies as book-keeping and shorthand. There are also classes in music, vocal and instrumental. The teachers of the classes are with one or two exceptions Harvard students, who receive no pay in money for their services. At present there are nearly one hundred of these student-teachers, and their devotion to their classes is marked. So great is the interest in the Prospect Union on the part of the university that there is no difficulty in finding a plenty of college men to lend their aid, and these students are among the men of highest rank in scholarship and of prominence in other respects in the university.

The weekly meeting of the Union is held on Wednesday evening. At this time there is usually a lecture, often by some member of the Harvard Faculty. Lectures have been delivered by President Eliot, Professors Charles Eliot Norton, Francis G. Peabody, W. W. Goodwin, F. W. Taussig, A. B. Hart, G. H. Palmer, and many other members of the Harvard Faculty; also by Colonel Thomas Wentworth Higginson, Rt. Rev. William Lawrence, Mr. John Graham Brooks, Rt. Rev. J. H. Vincent, Mr. John Fiske, Dean George Hodges, Mrs. Julia Ward Howe, Mrs. Lucy Stone, Mrs. Alice Freeman Palmer, Miss Vida D. Scudder, Rev. Dr. Lyman Abbott, Rev. Dr. Washington Gladden, etc., etc. The lecturers, like the teachers, receive no pay for their services in money.

The Prospect Union is not a charitable institution. Its members, who number over six hundred, pay a regular fee of three dollars a year or twenty-five cents a month. They are workingmen of almost every nationality, and of every shade of political and religious belief. The Union rests upon an absolutely non-sectarian basis; Catholic and Protestant, Jew and Gentile, meet upon a footing of manliness and friendliness.

The Union is characterized by a spirit of independence and yet of kindly feeling of men who differ widely from one another. There is no element of patronage or condescension on the part of the Harvard students, but they meet the members of their classes on the basis of a common manhood. Members have not only the privileges of the classes and the lectures, but also of the reading-room, library, social-room, bath-room, summer outings, and various concerts and entertainments.

AN OLD-TIME SOCIETY.

By ARTHUR GILMAN.

THE Cambridge Humane Society is one of the most venerable institutions that our city can boast. It held its eighty-first annual meeting in November, 1895, having been founded in 1814, apparently by Dr. Abiel Holmes, whose name leads the list of subscribers in the book of records which has served all the secretaries from that day to the present. In the middle of the "heated term," as the degenerate sons of the present time speak of the season, the fathers began their beneficent labors with an "address" to their fellow-townsmen, dated August 11. This address was the consummation of efforts begun in February, when a meeting had been held at Porter's Tavern. "Caleb Gannett, Esq., being chosen chairman, it was voted that the subscribers do form a society to be known hereafter as The Cambridge Humane Society." The next meeting was held at the same hospitable place, July 18, Dr. Abiel Holmes being chairman, and a committee, composed of "Samuel Bartlett, Esq., & Doct. Tho's Foster," which had been appointed in February, "reported the following list of articles that they had procured, which were then exhibited to the Society, viz.: — 3 Bathing Tubs, 2 Block tin bed-pans, 2 Block tin pint syringes, 1 Block tin half-pint syringe, 3 urinals, and 1 bed-chair." It was determined that these articles should be deposited in the hands of a suitable person resident near the centre of the town,[1] who should engage to keep them safely, and to deliver them to applicants under such conditions as the society might adopt. Inhabitants of other towns were not to use the articles, "unless they were too remotely situated to avail themselves of similar advantages in their own towns," from which we are to infer that bath-tubs, etc., were known

[1] The town at that time was but a small portion of the present Ward One. Probably there were seven hundred inhabitants.

elsewhere in the vicinity. Every borrower was under bonds to return the articles "clean and dry," and in case of competition among applicants, it was ruled that the preference should be given to indigent persons; but whoever should be the successful competitor, he was to be fined ten cents for every day that he retained the articles beyond the time allowed, which, in the case of "the tubs," was one week.

The first election of officers was held at Porter's Tavern on the 24th of August, 1814, when the following were chosen: president, Rev. Abiel Holmes, D. D.; vice-president, Rev. Henry Ware, D. D.; secretary, Levi Farwell; treasurer, Levi Hedge, Esq.; trustees, Samuel Bartlett, Esq., A. Bigelow, Esq., Dr. T. Foster, William Hilliard, and Israel Porter. It was when the society had been thus fully equipped with a board of officers that the address was issued to the inhabitants. It has a somewhat modern air, in spite of its more than modern dignity of expression. Let us read: —

"All are ready to acknowledge," they say, "the great obligations we are under as men, and especially as Christians, to supply the wants and relieve the sufferings of our brethren; and so numerous are the evils incident to humanity, and so frequent the causes by which their number is increased and their pressure aggravated, that the most liberal and diffusive benevolence can never want objects to engage its attention. It must be allowed that active philanthropy forms a prominent trait in the character of the present day. At no former period has there been such extensive and effectual provision, both public and private, for the relief of the poor and infirm. Institutions for the prevention and relief of suffering in all its various forms are continually springing up around us, the beneficial effect of which on society and great advantages over the occasional exertions of individuals are very evident. These advantages, however, must be limited in great measure to the particular town in which such institution is founded, hence it becomes important that there should be formed in every town an institution for extending the blessings of charity to the necessitous. Although the liberality of individuals in this place has often been extended in no small degree to persons of this description, still it has been regretted that there does not exist here an establishment calculated to ensure to the necessitous that assistance for which no public provision is made, and which the exertions of individuals cannot always supply. Should it be objected that the multiplication of charitable institutions serves to increase human calamity, by encouraging idleness and vice, the objection will be obviated if due care be taken

in selecting objects and concerting plans of charity. With whatever force this objection may be applied to other institutions, it is believed to be inapplicable to one intended for the relief of such persons as cannot possibly relieve themselves. Of this class of sufferers are the indigent sick, whose claims to charity are of all the most urgent, and yet least of all admit either deception or abuse. With these views and impressions, a number of persons have associated themselves for the relief of the indigent sick by the name of The Cambridge Humane Society. As the first step towards an object so desirable, they have raised by subscription a sufficient sum to procure a few of the most requisite articles; and have presented an address to the Ladies in Cambridge, requesting their assistance in procuring for the sick such additional articles and such further accommodations as come within their peculiar province.[1] In that address they have expressed more particularly what they apprehend to be the advantages of an association for charitable purposes which it were superfluous here to repeat, but to which they respectfully solicit the attention of the inhabitants in general. They indulge the hope that by the coöperation and liberality of their fellow townsmen the institution may be so matured as to embrace such further improvements as experience may suggest."

Besides the names already mentioned, we find among the early members, as we run down the list for the first thirty years: J. Mellen, Esq., A. Craigie, Esq., James Munroe, Sidney Willard, William Hilliard, Esq., Thomas Lee, Esq., Samuel Child, Jr., Charles Folsom, Esq., Hon. Joseph Story, Stephen Higginson, Esq., Dr. F. J. Higginson, Rev. Thomas W. Coit, Jonas Wyeth, Jr., John G. Palfrey, William Newell, Nehemiah Adams, R. H. Dana, Ebenezer Francis, Jr., Andrews Norton, Alexander H. Ramsay, Richard M. Hodges, William Saunders, J. B. Dana, C. C. Little, Simon Greenleaf, J. E. Worcester, John A. Albro, C. C. Felton, Charles Beck, Morrill Wyman, James Walker, E. S. Dixwell, Converse Francis, William T. Richardson, H. W. Longfellow, Edward Everett, Asa Gray, Francis Bowen, Joseph Lovering, John Ware, John Holmes, Estes Howe, William Greenough, Robert Carter, E. N. Horsford, Charles E. Norton.

Dr. Holmes remained president until his death in 1837, when Joseph Story was put in his place, Dr. Ware still remaining vice-president. Levi Hedge (LL. D.) was treasurer

[1] Frequent references to the "Female Humane Society" prove that the ladies, still most active in this work, were of the same disposition in the early days.—EDITOR.

until 1831, when, on account of ill-health and expected absence from town, he asked to be relieved from the cares of office, and a special meeting was called to choose his successor. Dea. William Brown was the choice of the society, and he held the post for five years, when, in September, 1836, Dr. A. H. Ramsay was chosen. He held the office with great acceptance for five years. He was again chosen treasurer in 1858, and held the office until 1885, when a special meeting was again necessary to elect his successor, on account of his death. William Taggard Piper was then chosen, and he is the present occupant of the office. Thus there have been but few treasurers during the life of the society. The thirty-two years of service of Mr. Ramsay is a record that it would be difficult to match in Cambridge.

The present officers are: president, Francis J. Child; secretary, Arthur Gilman; treasurer, William Taggard Piper. Mr. Gilman has been secretary for the past sixteen years. Dr. Morrill Wyman has been a member of the society for fifty-five years; Dr. Ramsay had been a member for fifty years at the time of his death; Dr. Palfrey was president for ten years, and there have been many other long terms.

The society continues its career of usefulness in a manner but slightly different from that laid down by the founders. It collects annually a certain sum, which is distributed by its almoner to the destitute with great carefulness, and the original principles of charitableness and thorough investigation of every case are followed. Among societies of its kind, it is doubtless the most venerable in our city.

It is entertaining, as showing the expression of the feelings of beneficence on the part of the fathers, in the village days of Cambridge, to look over the records of the society to mark on what subjects the thoughts of the members were brought to bear. For example, in 1816 they began to see the necessity for more apparatus for the performance of its work, and it was voted that an inquiry should be made by the trustees "concerning a patent bedstead and the machinery pertaining to it, for the purpose of raising a sick person from a bed," and they were prudently authorized to "procure such a one as in their discretion may comport with the pecuniary means of the Society." In the same year steps were taken to provide, "at the expense of the town," a "suitable boat or boats, and apparatus belong-

ing thereto, to be kept and used for finding, as soon as may be, persons drowned." The boat continued to demand a portion of the attention of the society at its meetings until 1830, after which date — fourteen years from its first appearance — it disappears from the records. It had been found in 1817 that the town was not willing to pay the entire cost of the boat, and it was voted that "William Hilliard, Esq., and Cap'n Sam'l Child be a committee to procure a suitable boat and appendages to the same," with authority to "draw upon the Treasurer for such sum as may be necessary, in addition to the sum provided by the Selectmen." In August, 1818, this committee reported that the object had been accomplished by means of contributions of twenty-five dollars each from the town and Harvard College, and certain additional sums from those benevolent personages, "individuals of the town." Thus, after two years of negotiation, the boat had been prepared for its work of "finding, as soon as may be, persons drowned." By 1825, however, after seven years of usefulness, as we must suppose, it was discovered that "the boat" needed repairs, and the trustees were requested to put it in order "as soon as may be, and to keep it in order, and place it in such situation as shall be safe and convenient of access when there may be occasion to use it in the service of the Society." A year later the trustees made a report on the expediency of repairing the boat, and we can only guess that they had discovered that its condition had placed it beyond the desirability of repairs, for the society, after adjourning for a month, perhaps in order that the members might make personal examination of the boat, voted to appropriate fifty dollars for an entirely new one. It was not so easy, however, to provide suitable care for the boat, and in August, 1829, a committee of three prominent citizens was appointed to provide the quarters, which seem still to be unsecured. This committee reported that the best method would be to contract with Mr. Emery Willard to care for the boat. The advice of the committee was adopted, and the boat seems thereafter to have been kept by Mr. Willard. It passes from the records at least, and was no longer a cause for solicitude.

The society seems to have been the original Cambridge board of health, and in 1817 it commissioned William Hilliard, Esq., "to enquire concerning, and to apply to the Selectmen to cause to be removed, any nuisances which endanger the health of the town."

The society had been formed to aid the "indigent sick," and after about nine years of experience, in 1823, a feeling arose that perhaps the sphere of action might be widened, and accordingly a committee was appointed to "enquire whether any portion of the Society's funds may be appropriated to the use of other persons besides the indigent sick." This committee made a formal report on this, which seemed to be a constitutional question, in the course of which it said: —

"That upon the organization of the Society, it was considered a primary object to obtain such articles, by way of permanent apparatus, as are wanted in cases of sickness, and which with difficulty are procured from other sources. To the accomplishment of this object, liberal subscriptions were then made. In addition to this, the annual assessment of one dollar upon each member of the Society has enabled it, from year to year, to make appropriations for the partial relief of such cases of poverty, accompanied with sickness, as have come within the knowledge of the Trustees. Your Committee would further report, that although it was considered a prudent measure in the infant state of the Society, to limit its appropriations for relief exclusively to the objects contemplated in the Preamble to the Constitution of the Society, to wit, 'the indigent sick;' yet they consider that there are many strong cases, which have and will occur, where the restriction operates as a bar against the relief of suffering poverty, although not attended with the still greater calamity of sickness. In such cases your Committee are of the opinion that the prudent extension of our charities might be made to comport with the benevolent intentions of the Society. From these considerations your Committee would recommend, that the Constitution be so far altered, that the appropriations hereafter made by the Society be applied to such persons as the Society, or the Trustees thereof, may consider as in a state of suffering poverty, although it may not be accompanied with actual sickness."

Upon these suggestions the society then agreed to act, and upon them it still acts, after the lapse of threescore years and twelve.

There is but one more matter that it is necessary to mention in the history of this foundation of the fathers. In 1830, at a time when the beautiful river Charles was still flowing with pure water, a committee was formed to "consider and report on the expediency of erecting a bathing-house, in part, or wholly, at the expense of the Society, as may be thought desirable." The society was not in a hurry, even as late as 1830, and it was

a year before the committee made its report, and then, on the strength of it, a vote was passed authorizing the treasurer to pay to George King one hundred dollars, "whenever said King has erected a convenient bathing-house adjoining to or near the old Brighton Bridge, so-called." To this was added the following proviso: "Provided the said King shall make and deliver to the Treasurer a written engagement that each of the present members of the Society shall be entitled to a season ticket for the use of himself and family for the first season after the same shall be completed, and that thereafter each *present* member shall be entitled to a season ticket in each succeeding year on the following terms, viz.: heads of families on the payment of two dollars annually and other members on the payment annually of one dollar." This vote made it desirable that an authentic list of the members should be on record, and accordingly such a list was placed on the books. It is as follows: Abiel Holmes, Henry Ware, Levi Farwell, Levi Hedge, Israel Porter, E. W. Metcalf, James Munroe, A. Biglow, Sidney Willard, William Hilliard, William Brown, T. L. Jennison, Asahel Stearns, W. J. Whipple,* Abel Willard,* James Brown, Charles Folsom, Joseph Story, Josiah Quincy, William Wells, Stephen Higginson, James Hayward, N. J. Wyeth, William Watriss,* F. J. Higginson, Joseph Foster, Thomas W. Coit, Otis Danforth, John Farrar. Those marked with a star are single men.

It may have seemed to the members that this legislation was rather more for the advantage of the members than for that of the "sick," indigent, or otherwise, and this may be the reason why in the following year it was voted that an appropriation for the purchase of tickets for the bath be made, so that five dollars' worth might be put in the hands of each of the three physicians, "Drs. Timo. L. Jennison, Sylvanus Plympton, and Francis J. Higginson," "to be by them from time to time given to such individuals as, in the opinion of said physicians, may be benefited by their use, and whose circumstances may render such an appropriation conformable to the objects of this Society."

During the eighty-one years of the life of the society it has had eleven presidents. Dr. Holmes served for the longest term, — twenty-three years. He was followed by Professor Joseph Story, the distinguished jurist; Professor Simon Green-

leaf, whose widow, sister of the poet Longfellow, still lives in Cambridge; Hon. John G. Palfrey, the historian; William M. Vaughan, the late revered founder of the Social Union; and later, by Dr. Francis Greenwood Peabody, Plummer Professor in Harvard College; Dr. Joseph H. Allen, the late Samuel Batchelder; and the present head of the society, Professor Francis J. Child.

EAST END CHRISTIAN UNION.

In October, 1875, Mr. W. G. Clapp began missionary work in the easterly part of Cambridgeport, and established the next year a Sunday-school, which gradually increased. In order to build a suitable hall for the enlarging work, a fair was held in 1888, and about $2000 was raised. The present corporation was formed in 1889. Mr. John H. Walker became superintendent of the Sunday-school in 1890. The building was erected in 1891 at a cost of about $4000, and is free from debt. In September, 1892, it was decided that the Union should be kept open day and evening, and that a superintendent should be employed to devote his whole time to the work at the building and in the neighborhood. Mr. Walker was secured to fill this position, and the result has been a steady increase of the usefulness of the Union. In January, 1896, a gymnasium, bath-room, and workshop were established in the adjacent building.

The Union building is located on Brewery Street, in Cambridgeport, between Main and Washington streets, and near their junction. There is a large hall, and in it, and in three smaller rooms, most of the classes are held. The superintendent coöperates with the Associated Charities. All cases of need are immediately provided for.

The front room on the first floor is well supplied with reading matter. There is also a lending library of one thousand volumes. Visitors are always welcomed.

The new rooms at the corner of Main Street accommodate the gymnasium, bath-room, and workshop, which are open afternoon and evening. The Triangle Club of the Union, consisting of boys divided into senior and junior members, makes use of these rooms.

The officers at present are: president, Rev. T. F. Wright, 42 Quincy Street; vice-president, Rev. Alexander McKenzie, 12 Garden Street; treasurer, Frederick W. Rogers, 5 Craigie Street; secretary, Miss Helen L. Bayley, 133 Austin Street.

THE CAMBRIDGE HOSPITAL.

By DR. MORRILL WYMAN.

Cambridge has not been wanting in its charities even in its earliest times. The Church, which was then the State, charged itself with the care of the sick poor. Some were aided, in a small way to be sure, in their own houses. Dr. Paige in his history gives us a list of charges, quaintly expressed, from which it appears that Brother Towne has £1 toward his expenses in sickness; Sister Banbrick, being sick, "had a breast of mutton;" Sister Albone 7lbs. of venison, some physic, and a bottle of sack, and brother Sill four quarts of sack for his refreshment in times of "fayntness." Others were "aided in supply of their manifold necessyties." About 1663 the care of the poor passed into the hands of the town, and for a hundred years after the poor were cared for by the selectmen in private families. In 1779 the first workhouse and almshouse was opened on the corner of Boylston and South streets. This proving unsatisfactory, soon another was built on the corner of North Avenue and Cedar Street, and called the Poor's House. Here, for the first time, were appointed overseers of the poor, distinct from the selectmen, who were charged with providing everything necessary for the support of the poor, and the appointment of a physician. This served the purpose till 1818, when a third was built in the square bounded by Harvard, Norfolk, Austin, and Prospect streets. In 1836 this last was burned with one of its wretched inmates. Then followed a larger and much better building of brick on the banks of Charles River, where the Riverside Press now stands. It was well arranged and well managed, and some parts of the building still remain. This beautiful spot was abandoned in 1849 for the present stone structure in the northwest corner of the city, adjoining the Somerville line.

Besides the public provisions for the sick poor, other chari-

CAMBRIDGE HOSPITAL.

ties have been created in Cambridge by bequests and gifts. That of John Foster for the poor of the First Parish; of Levi Bridge under the care of the overseers for the time being, to be expended for the deserving poor of Cambridge; of Daniel White for fuel; of Charles Sanders, of Cambridge, the income of $10,000 for the prevention of intemperance and the reclaiming of inebriates, and again of the same Charles Sanders a trust of $400,000 in aid of objects and purposes of benevolence or charity, public or private, a part of which is annually distributed in Cambridge. To these we must add the charities of the churches, the Cambridge Humane Society, the Avon Home for Children, and of individuals, a constantly flowing stream, the springs of which are known only to individuals. The amount of these charities it is impossible to determine.

But these aids, as a little reflection will show, do not meet the wants for which hospitals are built. Although the sick in the almshouses are accommodated with a hospital-room, and receive all the attention and kindly care possible under the circumstances, it is after all a poorhouse. It is a mingling of those who have become sick through no fault of their own with the vicious, the degraded, those who have lost their citizenship, and even the criminal. Reason or philosophize about it as we may, the very idea of going to an almshouse carries with it a sense of degradation. It is no place for honest, well-intentioned persons who only ask our aid when sick or disabled.

With all the aid afforded by the churches, by bequests, by the trusts we have just enumerated, and by individuals, and all that the city, through the overseers of the poor and its medical officer, may give, this charity, so far as regards the relief of the sick poor, must of necessity be imperfect. The surroundings of the sick, upon which so much depends, can be but slightly improved by gifts of money, the prescribed medicines may not be got or, if got, not properly administered; nursing may be entirely wanting. Thus money will be wasted, and either the whole attempt fail for want of organization, or become a most expensive, unsatisfactory form of charity.

With a strong feeling that something could be done to improve this state of things, Miss Emily E. Parsons, a benevolent lady of Cambridge, who had with great acceptance served two years as nurse in the army hospitals in Fort Schuyler and on the Mississippi, during the War of the Rebellion, opened in

Cambridge, in 1867, with the aid of generous individuals, a hospital for women and children. It was kept open a year, and then closed for want of a house. It was reopened in 1869.

On the 13th of February, 1871, the Cambridge Hospital for sick and disabled persons was incorporated. Early in 1872 it became evident, by reason of a lack of interest in the community, that the hospital could no longer be kept open and, with the approval of Miss Parsons, it was closed May 1, 1872. It is due to this warm-hearted, energetic woman to declare that her interest in the hospital never flagged, and the hope never ceased that the day would come when the dearest wish of her heart would be realized.

In December, 1873, Mr. Isaac Fay bequeathed to the hospital $10,000, with the restriction that it should be used only for the erection of buildings. This generous bequest thus restricted was carefully invested. In 1881, nine years after the hospital had been closed, Cambridge having been increased by 20,000 inhabitants, the necessity for it became more and more apparent. We were sending more than 100 patients annually to a single Boston hospital. Interest in the cause was renewed, and by liberal gifts, and especially by a "Fair" held by the ladies of Cambridge in December of the same year, $12,000 were added to its funds. These funds were still further increased by many gifts during the following two years. Mr. Fay's bequest had now reached $18,000.

The hospital inclosure contains nine and one third acres. The soil is dry, gravelly, and sandy. The surface upon which the buildings stand is about twenty-five feet above the level of the river, and sufficiently distant from its bank. It is well raised above the crown of Mount Auburn Street. It has a water front of 500 feet. On the opposite side of the river is a park or meadow of seventy acres, given by Professor Longfellow and others to Harvard College "to be held by the grantees as marshes, meadows, gardens, public walks, or ornamental grounds, or as the site of college buildings not inconsistent with these uses." Facing the south, the wards have the full influence of the sun, and a free course for the very desirable southwestern breezes of summer. The river front effectually prevents all dust from that quarter. In process of time the number of wards must be increased, and for this purpose all the nine acres of area may be required.

The buildings of the hospital consist of a central or administration building, two separate wards, one for men and one for women, and a separate building for the care of cases of contagious disease.

The hospital was opened for the reception of patients in 1886, and since that time nearly 3000 sick persons have been cared for within its wards. When full the hospital has accommodations for fifty patients. The buildings and land have cost more than $100,000.

The annual cost for maintenance of the establishment has been for the past few years nearly $20,000, a sum of money considerably beyond the income of the invested funds of the institution; the deficit is made good by the gifts of the people of Cambridge.

FREEMASONRY IN CAMBRIDGE.

By HENRY ENDICOTT,

PAST GRAND MASTER OF THE GRAND LODGE OF MASSACHUSETTS.

THE history of Freemasonry in Cambridge begins with the organization of Amicable Lodge, for which the preliminary steps were taken as early as February 6, 1805. Even at this early period Masonry held an honored place in the community. It had been of importance still earlier, in the days of the Revolution, and had assisted materially in the struggle which transformed a group of dependent colonies into a nation. The quarter-century which had passed since the surrender of Cornwallis had not obliterated the memory of those days when Washington was at the head of a lodge, and when Joseph Warren, Paul Revere, and other Revolutionary heroes were accustomed to meet at the Bunch of Grapes Tavern and talk of freedom as a Masonic principle.

The Masonic Association, which was inaugurated in Cambridge by eighteen brethren on the 6th of February, 1805, was known at first as the Aurora Society. Meetings were held at Hovey's Tavern, on the southwest corner of Main and Douglass streets. The original call included a statement of purpose signed by Daniel Warren, Asa Ellis, Benjamin Bigelow, Charles Parks, Nathaniel Livermore, Isaac Barnard, Nathaniel R. Whitney, Jr., Nathan Crane, Samuel Albee, John Wheeler, Andrew Adams, Luke Hemenway, Elijah Learned, Nathan Fiske, Salmon Morton, Ebenezer Watson, Daniel Smith, and William Warren. This list includes many well-known Cambridge names. In accordance with this call, the first meeting was held on the 9th of February, and soon after by-laws were adopted and officers elected. The by-laws provided that not more than seven new members should be admitted; that meetings should be held every Wednesday evening in " Mr. Hovey's

southeast chamber," and be adjourned at half past nine o'clock; that officers should be elected once in eight weeks; and that a unanimous vote should be necessary for the election of new members. Andrew Adams was the first Master, Nathan Crane and Elijah Learned the first wardens. The petition for a charter was approved by Columbian Lodge of Boston, and was presented to the Grand Lodge on June 10 of the same year. After a trial of four months the name Aurora seems to have proved unsatisfactory, and the petition prayed for a charter under the name of Oriental Lodge. As this name had been preempted by another Massachusetts Lodge, it was finally decided to take the name Amicable, one which has been proved to be not unfitting. By this time six new members had been admitted, James Fillebrown, Joseph Ayres, Richard Bordman, Benjamin Grover, Samuel Cutler, and Benjamin Bowers; and one of the original signers, Ebenezer Watson, had dropped out. The ceremonies attendant upon the consecration of the lodge and the installation of its officers were held on St. John's Day, June 24, 1806, when the Grand Lodge attended, an oration was delivered, and a banquet served.

Before securing a permanent home for itself, the lodge met in several different halls, both in Harvard Square and in Cambridgeport. Bordman's Hall, on the west corner of Dunster Street and Harvard Square, long ago torn down, Porter's Hall on Brighton Street, Cutler's Hall in Cambridgeport, blown down in the memorable September gale of 1815, all provided it with temporary shelter for longer or shorter periods. In 1818 it fitted up rooms in the second story of the Franklin Street schoolhouse, which remained its home for twenty years. This schoolhouse, which was built in 1809 on a lot of land given to the city by Judge Dana, was sold in 1853 and removed from the city.

The ten years from the time of fitting up these rooms for permanent use to the year 1828 afforded opportunity for steady growth. To quote the words of Dr. Paige, our venerable historian, to whom every gleaner in these fields must acknowledge his great indebtedness, "Its meetings were well attended, its treasury well supplied, and its officers energetic and among the most respected and influential citizens." A curious arrangement was made with the town in 1825, in accordance with which the lodge bought land adjoining the Franklin School lot, and fitted up on it the old Baptist vestry, to be

used by the town as a schoolhouse, in exchange for a lease of the lodge-rooms.

The anti-Masonic excitement, which began in New York State, reached Cambridge in full force about the year 1828. Looking back on those days, it is difficult to understand the extent of the disturbance, or to comprehend the causes which led to such bitter and unreasoning opposition. In Massachusetts, as elsewhere, the persecution was "carried into all the relations of social life; the ties of kinship and of friendship were rudely severed; the springs of sympathy were dried up; confidence between man and man was destroyed; members of the Masonic institution were broken up in their business, denied the lawful exercise of their civil franchise, driven with ignominy from public offices, from the jury box, and from the churches, subjected to insult, injury, and contumely in their daily walks." Thus wrote Charles W. Moore, the author of two celebrated documents addressed to the public, which are said to have proved the final deathblow to anti-Masonry in this State.

Amicable Lodge maintained its ground, though with some difficulty, for about ten years. In that time only a single candidate was initiated; many members naturally lost courage, and meetings were necessarily held less often and at irregular intervals. In 1838 it was decided to dispose of the funds and to dissolve the organization. It was the intention of the members to convey their property to the town for charitable purposes, insisting, however, that the name "Masonic Charity Fund" should be perpetuated. In detail the conditions were as follows: —

1. That the town shall pay interest annually on the amount of the Fund at the rate of six per cent. per annum.

2. That the interest arising from the Fund shall be annually paid out upon application to such past or present members of Amicable Lodge, or their immediate families, as the Selectmen for the time being shall consider objects of charity.

3. That the interest unappropriated as above, at the end of each year, shall be added to and form a part of the permanent Fund.

4. That when the amount of the Permanent Fund shall have accumulated to the sum of five thousand dollars, the Selectmen for the time being shall annually distribute the interest, in such manner as they shall deem proper, to any residents of the

Town of Cambridge not public paupers, whom they may consider worthy objects of charity.

5. That the Fund be called the Masonic Charity Fund.

Fortunately for the Masons, as it eventually proved, this offer was not accepted, owing to the violence of the distrust, which showed itself in many forms of opposition. The money was therefore kept in the hands of private parties, and later it formed the nucleus of the present charity fund of the lodge.

The storm gradually subsided, as the element of politics was eliminated from it, and common-sense once more resumed its authority in Cambridge as elsewhere. After an interval of seven years and a half, a petition for the restoration of the charter was signed by eleven members of the lodge as it stood in 1838, to which were added the signatures of other brethren, who thus declared their interest in the reorganization, and their purpose to support the lodge. On the 27th of December, 1845, the charter was restored to Isaac Livermore, Isaiah Bangs, Nathaniel Livermore, Thomas F. Norris, Jacob H. Bates, John Edwards, Jonathan Hyde, Charles Tufts, John Chamberlin, Nathaniel Munroe, and Emery Willard. At the first meeting when the lodge was organized for business, several new members were elected, and one of them, Lucius R. Paige, was elected Master. Simon W. Robinson, the Grand Master of the Grand Lodge, installed the officers. From that time there has been no break in the regular meetings and proper business of the lodge.

After the reorganization, meetings were held in the hall of Friendship Lodge of Odd Fellows, on Main Street, nearly opposite Pearl Street, and this hall was used until its destruction by fire in 1854, when Amicable Lodge removed with the Odd Fellows to Friendship Hall on Pearl Street, between Green and Franklin streets. In 1866 their present commodious apartments were fitted up on Main Street, now Massachusetts Avenue, No. 685.

On the 18th of October, 1855, a semi-centennial address was delivered to the lodge by Rev. Lucius R. Paige. At that time Amicable Lodge numbered only sixty-two members. At the seventy-fifth anniversary, J. Warren Cotton was the orator of the occasion, and announced the number of members as 206, notwithstanding the loss of forty members, who had transferred their immediate allegiance to Putnam, Mount Olivet, and Miz-

pah Lodges. The present number, as reported for the year ending August 31, 1895, is 253.

It has seemed desirable to dwell thus on the early history of Amicable Lodge, since it is one in which all the lodges of the city are equally interested. It antedates the earliest of the remaining lodges by nearly fifty years, — years marked by unusual vicissitudes in Masonic institutions everywhere, — and it still remains the largest of the five now in existence. Of these, Putnam Lodge, of East Cambridge, numbering now 159 members according to the report of August 31, 1895, was chartered in 1854; Mount Olivet Lodge was chartered in 1863, and reports 151 members; Mizpah was chartered in 1868, and has 180 members; Charity Lodge, dating from 1870, has 101 members. The Cambridge Royal Arch Chapter was chartered in 1864, and Cambridge Commandery of Knights Templar in 1890.

Freemasonry in Cambridge owes much to Rev. Lucius R. Paige, who has had an interesting Masonic history. As the natural result of early elections and of a very long life (Dr. Paige is now in his ninety-fifth year), he is the senior Past Master of Masons in Massachusetts, the senior Past Commander of Knights Templar in the State and probably in the United States. It is eminently fitting that any memorial of Freemasonry in Cambridge should contain affectionate tribute to one who championed this cause when it most needed friends, and who has always brought to its service unwavering fidelity, steady judgment, and unusual ability.

ODD-FELLOWSHIP IN CAMBRIDGE.

By REV. GEORGE W. BICKNELL, D. D.

Of the many fraternal organizations which exist among us, none occupies a more commanding and reputable position than that of the Independent Order of Odd Fellows. From its early inception in this country — seventy-seven years ago — it has steadily gained in strength and popularity, until now it is one of the most powerful, numbering over one million two hundred thousand members. While it is a secret society, yet its good works are so manifest, and, in a public way, it has so moved in and among the people, that, with its evident and demonstrated intent to bless mankind, it seems to be of and for the world.

The Order was first founded in England in the eighteenth century, although its principles were entirely different from those adopted at its organization in the United States. The first American lodge was instituted in Baltimore, Maryland, April 26, 1819. Its primary avowed purpose to cultivate sociability among its select few rapidly changed into assuming new responsibilities and prosecuting new lines of work. It adopted as its motto, "Friendship, Love, and Truth," and as its aim, to adapt these principles to every-day life. Hence it has made its labor practical. Fidelity to the laws of God, the laws of the State, and to all the duties of citizenship, is strictly enjoined. It seeks to assist brothers when in need, to minister to the sick and suffering, to alleviate distress by personal presence, to exert an uplifting influence by which character may be better unfolded and a richer manhood secured, and with a pure brotherly interest and affection such as its principles inculcate, to afford protection and helpfulness to the widows and orphans of deceased brothers. Vast sums of money have been expended by the Order in the ways indicated. More than money, however, has been the ministration of love's helpfulness, the posi-

tive assurance of a strong heart-sympathy when needed, which has a tendency to warm and quicken men towards distress and suffering everywhere. Odd-Fellowship does not endeavor to take the place of any other organization for manly and Christian work; but it seeks to supplement and augment that work, which is stronger for its organization and activity.

The Order consists of the Lodge, Encampment, and Daughters of Rebekah, "the last being adopted by the Grand Lodge of the United States for the use of ladies legally connected with subordinate lodges by male membership."

Cambridge has six subordinate Lodges, two Encampments, and two Rebekah Lodges, all active, and supported by an earnest and enthusiastic membership numbering over two thousand. They are as follows: —

New England Lodge, No. 4, instituted July 21, 1827, 274 members; Friendship Lodge, No. 20, instituted September 26, 1843, 365 members; Mount Auburn Lodge, No. 94, instituted October 15, 1845, 113 members; Cambridge Lodge, No. 13, instituted September 2, 1874, 240 members; Mount Sinai Lodge, No. 169, instituted September 23, 1874, 205 members; Dunster Lodge, No. 220, instituted July 11, 1893, 184 members; New England Encampment, No. 34, instituted October 3, 1865, 149 members; Charles River Encampment, No. 22, instituted September 1, 1846, 176 members; Olive Branch Rebekah Lodge, No. 21, instituted March 13, 1874, 143 members; Amity Rebekah Lodge, No. 15, instituted June 29, 1871, 189 members.

Friendship Lodge celebrated its fiftieth anniversary in 1893 at Union Hall, which was one of the most elaborate and largely attended celebrations of any organization in the history of our city.

Two large and handsome buildings, one in Cambridgeport, the other in North Cambridge, have been erected for the use of the Order.

THE GRAND ARMY IN CAMBRIDGE.

By JOHN D. BILLINGS.

If faith is to be judged by works, then must the faith of those who regard Cambridge as one of the most patriotic of towns find abundant justification. The history of the settlement, from its earliest beginning, is rich in testimony to this point. Every page is illumined with patriotic achievement or endeavor, the somewhat limited patriotism of the village expanding into a broader regard for the colony and State, and later comprehending the whole country.

While the patriotic spirit should mark every department of civil life, it is to affairs martial that we are prone to turn for its most conspicuous illustrations, and turning in that direction the generations of this city to-day have inspiring ideals set before them, inciting them to still higher endeavor. Every call for men to defend colonial interests or national integrity has met in Cambridge a most prompt and generous response. No better proof of this statement can be adduced than is shown by her contribution of men to serve in the armies of the Revolution, aggregating in number one fourth of her entire population. And when the Union was threatened, in 1861, her promptness and patriotism were conspicuous, for, as is well known, the first volunteer company of the war was raised in this city, and her total enrollment in the various arms of the service equaled one sixth of her population, — a showing, it is confidently believed, which has few parallels and no superiors among municipalities in the State.

After the enemies of the Union had been overthrown, the conquering legions returning to their homes were confronted with a new duty which they had scarcely anticipated, yet one which they took up with characteristic promptness. It was the care of those men who, having borne the brunt of battle, had come home crippled for life; the care of the widowed and

the orphaned; the aid of such as found their places in the workshop and the factory filled by others. The men who lived to fight it out were not willing to have their comrades who had touched elbows with them in the thick of the fray finish a painful existence in the almshouse, or stand with extended palm at a street corner. They believed that a grateful country would keep its promises with these men whenever an organized movement was set on foot in their behalf. So the Grand Army of the Republic was born, and once fairly established and cut loose from all political entanglements, found its mission clearly defined and pressing for attention.

Massachusetts stands tenth in the order of States to enlist in the ranks of this organization. Perhaps no one of the earlier posts entered into the spirit of the new order more heartily than did John A. Andrew Post 15 of Boston, and no Post, it is believed, had so large a suburban membership. A natural outgrowth of this situation, as the order became popular, was the withdrawal of members from the suburbs to establish new Posts in their own towns or villages. Such a withdrawal occurred under the enthusiastic lead of the late Captain J. Warren Cotton. Thus Post 30 was founded. It took the name of William H. Smart, an estimable Cambridge soldier, the first of her long list of martyrs in the war. The preliminary meetings were held at the house of Mr. Cotton, on Austin Street, and the following names appear on the charter, which was granted October 23, 1867, by Grand Commander Austin S. Cushman: J. Warren Cotton, J. A. Hildreth, E. G. Dike, A. C. Wellington, A. M. Lunt, F. A. Lull, David P. Muzzey, H. O. Marcy, Charles Munroe, Jonas F. Capelle. Of these, all but four had been members of Post 15. The Post was instituted at Friendship Hall on Pearl Street, where it subsequently made headquarters for many years.

The first roster of officers of the Post was as follows: Commander, J. Warren Cotton; Senior Vice-Commander, Jonas F. Capelle; Junior Vice-Commander, David P. Muzzey; Adjutant, Austin C. Wellington; Quartermaster, Frederick A. Lull; Chaplain, H. O. Marcy. The commander appointed Edward G. Dike, Officer of the Day; J. A. Hildreth, Officer of the Guard; Charles Munroe, Musician; Alphonso M. Lunt, Sentinel.

About 680 veterans have been mustered into the Post; of

SOLDIERS' MONUMENT, CAMBRIDGE COMMON.

these, 82 have died. January 1, 1896, its membership in good standing was 231. Its estimated expenditure for relief work of various kinds is $18,000; the following are the officers of 1896: Commander, George A. Dietz; Senior Vice-Commander, B. F. Hastings; Junior Vice-Commander, William Gallagher; Surgeon, Charles J. Collins; Chaplain, John G. Ellis; Officer of the Day, G. W. Belcher; Adjutant, James B. Soper; Quartermaster, George H. Hastings; Officer of the Guard, James E. Hill; Sergeant-Major, Amos D. Jarvis; Quartermaster-Sergeant, Richard M. O'Brien. Partly through disappointments resulting from an election of officers, but largely through local desire to have Posts established in other sections of the city, then less compact than now, two withdrawals from the Post occurred, having in view the formation of Posts in Old Cambridge and East Cambridge.

Post 56 of Old Cambridge was the first of these to receive a charter. It bears the date June 26, 1868, and the signature of A. B. R. Sprague as Grand Commander. The name Charles Beck was adopted in honor of a worthy citizen who had been a professor in Harvard College at one time. Too old to enlist himself, he spent time and money in obtaining recruits for the service, and generously contributed to the comfort of the men in the field. He was a thoroughly loyal and large-hearted citizen. The following were the charter members of the Post: Edward G. Dike, Charles Munroe, Henry L. Mitchell, Stephen S. Harris, George H. Prior, Charles H. Bate, George A. Cole, James A. Munroe, J. A. Hildreth, Lemuel Pope, Samuel K. Williams, A. P. Clarke.

The post elected the following as its first officers: Commander, Edward G. Dike; Senior Vice-Commander, Lemuel Pope; Junior Vice-Commander, J. S. Winkley; Adjutant, Henry L. Mitchell; Quartermaster, Stephen S. Harris; Surgeon, A. P. Clarke; Chaplain, David B. Muzzey; Officer of the Day, J. A. Munroe; Sergeant-Major, E. C. Coombs; Quartermaster-Sergeant, Nathaniel Munroe; Musician, Charles Munroe.

The Post bears on its rolls the names of more than 400 veterans. Sixty-two have died. Its present membership is 128. It has expended a large amount in relief work. Its present officers are these: Commander, A. H. Ricker; Senior Vice-Commander, T. J. Breen; Junior Vice-Commander, F. J. O'Reilly; Adjutant, A. W. Glidden; Quartermaster, William

N. Eveleth; Surgeon, Matthias Fleck; Chaplain, A. W. Curtis; Officer of the Day, M. C. Beedle; Officer of the Guard, A. J. Littlefield; Sergeant-Major, M. J. Conry; Quartermaster-Sergeant, George W. Warren.

P. Stearns Davis Post 57 of East Cambridge was chartered June 29, 1868, by Grand Commander Sprague. It was named in honor of the lamented colonel of the Thirty-Ninth Massachusetts Volunteer Infantry, who had been a resident of that ward, and lost his life in the field before Petersburg. These names appear on the charter: A. M. Lunt, Robert L. Sawin, John T. Wilson, Jonas F. Capelle, I. M. Bennett, C. F. Blaisdell, A. F. Fifield, James A. Grant, John H. Blair, Albert L. Norris, Oliver H. Webber, John Ford, Henry C. Hobbs, Otis S. Brown, Jeremiah W. Coveney, Thomas McIntire, Jr.

July 10 the Post was mustered by J. Warren Cotton, and the following-named comrades chosen officers: Commander, Robert L. Sawin; Senior Vice-Commander, J. H. Blair; Adjutant, A. M. Lunt; Quartermaster, T. J. McIntire; Surgeon, A. L. Norris; Sergeant-Major, O. S. Brown. At subsequent meetings C. H. McIntire, Jr., was made Junior Vice-Commander, George Graves, Jr., Chaplain, and John Ford Quartermaster-Sergeant.

The Post bears on its rolls 462 names; 91 comrades have deceased. It has expended over $11,000 in its relief work. It now numbers 129 members. Its present officers are: Commander, T. I. Quinn; Senior Vice-Commander, Andrew Metzger; Junior Vice-Commander, F. O. Mansfield; Surgeon, Andrew Burke; Officer of the Day, William Voit; Adjutant, John Donelan; Quartermaster, John S. Kenney; Officer of the Guard, John Gilligan; Chaplain, T. H. Ball; Sergeant-Major, M. F. Davlin; Quartermaster-Sergeant, Peter B. Haley.

Late in 1886 Mr. John D. Billings, then a member of E. W. Kinsley Post 113 of Boston, aided by Captain John S. Sawyer and Lieutenant John H. Webber, obtained signatures for a new Post in Cambridge. The application for a charter was signed largely by men who, for various reasons, had never joined the order, and by a few who had dropped out of it. A preliminary meeting was held in St. George's Hall, Hyde's Block, Main Street, Thursday evening, January 6, 1887, when the name of John A. Logan was agreed upon for the new organization, that distinguished general having recently de-

ceased. The meeting nominated a list of officers. January 13 a charter was granted to John A. Logan Post 186 by Department Commander Richard F. Tobin. The following officers were elected and installed: Commander, John D. Billings; Senior Vice-Commander, John S. Sawyer; Junior Vice-Commander, James G. Harris; Surgeon, Charles E. Vaughan; Adjutant, W. P. Brown; Quartermaster, Thomas Pear; Officer of the Day, D. Webster Bullard; Officer of the Guard, Emery J. Packard; Sergeant-Major, James E. Hall; Quartermaster-Sergeant, J. H. Robinson; Chaplain, W. A. Start.

This Post, though so young, bears on its rolls 128 names. Fifteen veterans have deceased. Its present membership is 96. It has expended about $1500 in relief work. Its present officers are these: Commander, Joseph T. Batcheller; Senior Vice-Commander, Samuel Spink; Junior Vice-Commander, Fred. A. Libbey; Surgeon, Marshall L. Brown; Adjutant, William P. Brown; Quartermaster, Thomas Pear; Chaplain, J. Willard Brown; Officer of the Day, Thomas Allan; Officer of the Guard, George E. Seward; Sergeant-Major, G. W. B. Litchfield; Quartermaster-Sergeant, George B. Smith.

Each of the Posts has an associate membership connected with it, and all but Post 186 have an organization of the Woman's Relief Corps as an auxiliary. The Posts hold occasional campfires, have lectures, and in various ways aim to keep alive the fraternal spirit, and by fairs and divers forms of entertainment replenish their relief funds whenever necessary, loyally and generously supported in their work by their fellow-citizens, to whom they have never yet appealed in vain.

KNIGHTS OF PYTHIAS.

By EBEN W. PIKE.

St. Omer Lodge, No. 9, Knights of Pythias, received its charter April 11, 1884, and with a list of nearly 100 names entered upon the work of the order. For twelve years it has done a large amount of charitable work in this city, and to-day, with a membership of over 200, ranks among the first in the grand domain of Massachusetts.

Recognizing as it does the universality of human brotherhood, and embracing the world within its jurisdiction, its fundamental principles are solely for the cultivation of friendship, charity, and benevolence. Nothing of a sectarian or political character has ever been permitted within its portals, and obedience to law and loyalty to government are its cardinal principles; with these in view, and with justice to all, no doubt can exist as to its true and good intentions. There can be found in the ranks of St. Omer Lodge men from all classes of life, and among its Past Chancellors are those who have held the highest office in the gift of the city.

IMPROVED ORDER OF RED MEN.

On May 24, 1887, there assembled a number of citizens of this city for the purpose of forming an association, or what is now called a Tribe, of Red Men, under authority and by consent of the Great Council of the Improved Order of Red Men of this Reservation (Commonwealth of Massachusetts), and to further the principles of freedom, friendship, and charity in this vicinity. The gathering was effected by one who was a leading society man, and who took a great deal of interest in the organization. On the 14th day of June of the same year a charter was procured, and the formation of the tribe was completed with a membership of over 100 men, and later the name of Massachusetts Tribe, No. 44, was adopted, and the first council fire of the tribe was kindled. From June 9, 1887, to the present date the tribe has met regularly every second and fourth Tuesday of the month, and with attention to the benefits of the order has succeeded in placing upon its list of members some of the best citizens of the city.

The order itself is one of the oldest known, founded on principles which are truly American, and having among its signs, grips, and passwords everything pertaining to the aborigines of America.

The terms applied to the months of the year, as well as those applied to its finances, all speak of the red man of the forest, and a study into its mysteries will demonstrate the rude yet perfectly intelligible manner in which he chronicled all affairs. Freedom is one of the cardinal principles, and friendship is strongly exemplified in all its phases, while true charity is depicted in every act of its members, by extending the helping hand to the distressed.

Ponema Tribe meets the second and fourth Mondays in each month.

CAMBRIDGE CLUBS.

By GEORGE HOWLAND COX.

CAMBRIDGE is famed for the many social clubs connected with the university and the town. Their purposes are varied, the musical, literary, scientific, and social tastes of its people are fully provided for. Among those organized for social purposes, the most unique, perhaps, is the COLONIAL CLUB, which combines both town and gown; for the professor in the university and the business man of the city are included in its membership. This club was organized in 1890 by J. J. Myers (its promoter), Charles W. Eliot, Thomas Wentworth Higginson, Henry H. Gilmore, Alvin F. Sortwell, J. G. Thorp, Chester W. Kingsley, Henry P. Walcott, William A. Munroe, Charles J. McIntire, Daniel U. Chamberlin, Edmund Reardon, and Edmund A. Whitman.

The Henry James house, No. 20 Quincy Street, was purchased immediately after organization, and in 1892 it was entirely remodeled, and a very large addition made to it. It has the conveniences of a modern club-house, which include reading and card rooms, library, dining-rooms for members, as well as for ladies, assembly hall, bedrooms, billiard-rooms, and bowling-alleys.

The membership of the club is about four hundred, and comprises a most representative array of men. Its past presidents include Colonel Thomas Wentworth Higginson, 1890–93, and Charles W. Eliot, 1893–95. Its present secretary and treasurer have served continuously since the first organization. The purpose of the club is not merely to provide the usual place for reading-rooms and social intercourse, but to bring the men of the various sections of the city into closer relationship. Its success has been marked, and no club stands higher, or offers greater inducements to men who desire a place where club life can be found in its most dignified form.

COLONIAL CLUB HOUSE.

NEWTOWNE CLUB HOUSE.

The officers are: J. J. Myers, president; Judge John W. Hammond, Richard H. Dana, Judge C. J. McIntire, Arthur E. Denison, vice-presidents; George Howland Cox, secretary; Edmund A. Whitman, treasurer.

THE NEWTOWNE CLUB of North Cambridge had its origin in the Rindge Club, which was organized in December, 1893. The name Rindge was discarded the following year at the request of Mr. Rindge, and "Newtowne" substituted in its place. The club was incorporated July 23, 1894, and it is in the possession of a handsome club-house, colonial in design, located on the corner of Massachusetts Avenue and Davenport Street. The object of the club is to promote physical culture and social intercourse among its members. The club-house has a commodious gymnasium and six fine bowling-alleys. The membership is about four hundred and twenty-five, and includes many well-known men in the city. The officers are: E. D. Mellen, president; W. H. Lerned, vice-president; John C. Sylvia, secretary; George W. Apsey, treasurer.

THE CAMBRIDGE CLUB is the outgrowth of the Harvard Lyceum, an organization formed October 26, 1879, by citizens mostly of Cambridgeport, with the object "to promote literary and social culture among its members, and especially to consider and discuss questions relating to the welfare of the city of Cambridge." Meetings were held at Pythian Hall, Main Street. At a meeting held November 17, 1881, an amended constitution and by-laws were adopted, and it was voted to change the name to the Cambridge Club. Meetings are held monthly, excepting in summer, with a dinner at each. The aim of the club is to create and keep alive in the community a keen interest in all matters relating to the welfare of Cambridge; and with that object in view, the discussions at its meetings have generally been confined to subjects of that character. The limit of membership is one hundred, and there are no vacancies. Its officers are: Dr. Henry O. Marcy, president; Judge Charles J. McIntire, vice-president; Charles F. Wyman, secretary; Will F. Roaf, treasurer.

THE ECONOMY CLUB is an organization of young men which began as a debating society, and has broadened into a well-known and influential institution of the town. It was organized in 1872, and has had a continuous career ever since, this long and vigorous life making it remarkable among clubs of its char-

acter. Not a few men who have won distinction in various fields of activity have been members of the Economy Club, and owe much to its training. Its object is the study and discussion of economic, social, political, and historical questions. The management is in the hands of the president and executive committee, yet club affairs are fully discussed in such a manner as to preserve town-meeting methods. The club occasionally invites men eminent in their special lines of thought to address it, and other organizations to participate in joint debates; but it relies principally upon the efforts of the members, thereby preserving its traditions and its *esprit de corps*. The individuality of the club is marked by its singleness of purpose, by the composite character of its membership, and by the fact that it is non-sectarian and non-political.

THE CANTABRIGIA CLUB was organized in March, 1892, and Mrs. Estelle M. H. Merrill was elected president. The object of the club, as set forth in its constitution, is threefold, "social, literary, and humanitarian. In its work it shall endeavor, not only among its members, but in the community, to promote good fellowship and the highest form of social life; to encourage mental and moral development, and to aid by its organized effort such worthy causes as may secure its sympathy." Its work is divided among eight committees, — on literature, art, science, music, civics, the home, philanthropy, and current events, each presided over by a chairman. The membership of the club is more than six hundred, and its influence in the community has been marked. The officers of the club are: Mrs. William A. Bancroft, acting president; Miss Grace S. Rice, corresponding secretary; Mrs. Agnes D. Wilder, treasurer.

THE CITIZENS' TRADE ASSOCIATION.

THE Citizens' Trade Association of Cambridge was incorporated in 1892 by John H. Corcoran, Oliver J. Rand, George G. Wright, John S. Sawyer, Fred L. Beunke, Herman Bird, E. Burt Phillips, T. H. Raymond, Edwin H. Jose, David T. Dickinson, Daniel E. Frasier, C. W. Kingsley, George D. Chamberlain, Farwell J. Thayer, Charles Bullock, Henry O. Marcy, G. W. Burditt, Edmund Reardon, and George W. Gale.

The object of this association is to establish and maintain a place for friendly and social meetings of the business men of Cambridge, and to promote the welfare and business interests of the city.

The association fills a double need in Cambridge, for besides the business phase, which is most important, its rooms are well adapted for semi-club purposes, and are freely used in this way. The membership is composed of manufacturers, merchants, and professional men, and its work has been very effective. It holds monthly meetings, at which matters of public interest are very frankly discussed, and before any action is taken, an opportunity is given for both sides of the question to be strongly presented. Many great public movements have originated here and been taken up and carried out by the citizens at large. One of the most important was the agitation of the park question, which finally received the attention and effective interest of the city government. Among the latest efforts in this direction was the movement for the celebration of the fiftieth anniversary of the city. The original suggestion toward the accomplishment of this was made at a meeting of the association in the spring of 1895.

The officers are as follows: president, Henry O. Houghton; vice-president, David A. Ritchie; treasurer, Oliver J. Rand; clerk, Theodore H. Raymond; auditor, Will F. Roaf; directors, John L. Odiorne, William P. Brown, Enoch Beane, Charles P. Keith, John F. Danskin.

III.

CAMBRIDGE MUTUAL FIRE INSURANCE COMPANY.

FINANCIAL AND MANUFACTURING.

By GEORGE HOWLAND COX.

FINANCIAL.

It was not until the year 1826 that Cambridge had any banking facilities of its own, although it had long been a wealthy town. In March of that year the Cambridge Bank was chartered. The first meeting of its stockholders was held in Ebenezer Kimball's tavern, March 22, 1826. William I. Whipple was elected moderator, and Thomas Foster clerk. The act incorporating the "Cambridge Bank" had been passed by the General Court, March 4, and at this meeting the charter was accepted. Subscriptions for the stock were opened, and a board of directors elected as follows: James P. Chaplin, William Hillard, Newell Bent, Levi Farwell, William Fiske, John Trowbridge, Charles Everett, Isaiah Bangs, and S. P. P. Fay. Judge Fay declined to serve, and at a later meeting, March 31, Asahel Stearns was elected in his place.

The bank was capitalized at $150,000, and the stock was taken by residents of Boston, Natick, Watertown, Brighton, Sudbury, and many of the towns of eastern Massachusetts, but the larger portion was placed in Cambridge. In 1833, shortly after the organization of the Charles River Bank, it was voted to reduce the capital stock to $100,000, and in the following year, 1834, the reduction was made. It has remained at this figure ever since, although there were attempts made to raise the capital to $150,000 in 1853, and to $200,000 in 1854.

The board of directors held its first meeting March 27, at the house of Dr. Chaplin (corner of Austin and Inman streets). Dr. Chaplin was elected the first president of the bank. Martin Lane was elected cashier, and Luke Hemenway's store was purchased for the bank's quarters. The cashier was ordered to report for duty Monday morning, May 22, but it is probable

that the bank did not begin business until the following Monday, the 29th. It is said that it opened for business simultaneously with the inauguration of hourly coaches between Cambridge and Boston. The bank occupied Mr. Hemenway's store until it bought the brick building numbered 689 Main Street, where it had its rooms on the second floor. The bank remained there until 1870, when the brick building, which it now owns and occupies, was erected.

The young institution prospered. In less than a year it paid a four per cent. dividend, and its stock was at a premium. In 1843 an attempt was made to wind up its affairs, but the attempt did not succeed. The bank reorganized as the "Cambridgeport National Bank" in June, 1865.

Dr. Chaplin, the first president, died in October, 1828. He was succeeded by Deacon Levi Farwell, who resigned in January, 1832, to accept the presidency of the newly organized Charles River Bank. Judge Fay followed Deacon Farwell, resigning in December, 1842. Rev. Thomas Whittemore held the presidency till his resignation, March, 1860. Benjamin Tilton finished out the year, and in the following October Rev. Dr. Lucius R. Paige, at that time filling the position of cashier, was elected. In March, 1863, Dr. Paige resigned the presidency to accept the cashiership again, and Robert Douglass was made president. He carried the bank through the trying period of the reorganization, and resigned, on account of ill health, in January, 1882, and was succeeded by Hon. Asa P. Morse, the present incumbent.

Since the organization of the bank, the following persons, in addition to those named elsewhere, have served on the board of directors: Thomas Foster, E. T. Hastings, E. W. Metcalf, B. Bigelow, N. Childs, Francis Bowman, John Hayden, Ebenezer Kimball, Charles Haynes, Abel W. Bruce, Phineas B. Hovey, Hiram Brooks, Leonard Stone, Henry Potter, Flavel Coolidge, W. B. Hovey, Daniel U. Chamberlin, Jeremiah Wetherbee, Charles Wood, Edward Hyde, Ira Stratton, Alexander Dickinson, Curtis Davis, Samuel James, and Martin L. Smith. The number of directors has changed several times in the bank's history: at first nine members constituted the board, later this was increased to twelve, then it dropped back to nine again; a little later it was reduced to seven, and finally to five, the present number. Of the first board of directors William

Fiske served the bank the longest; he resigned in 1851, after twenty-five years of service. The present board consists of Lucius R. Paige, Asa P. Morse, Charles James, Frank H. Jones, and Charles Bullock. Dr. Paige was elected cashier in 1857, and he has served the bank continuously, in different capacities, since that time. Mr. Morse has been connected with the bank since 1860.

Mr. Lane served the bank as cashier from its inception, 1826, till March, 1855, when he resigned on account of ill-health. Dr. Paige held the position till March, 1860. Joseph Whittemore, late principal assessor, followed Dr. Paige, resigning in February, 1863. Dr. Paige took the office again temporarily, until Seymour B. Snow was elected in August, 1864. Mr. Snow held the position just twenty years. He resigned in 1884, when Mr. Will F. Roaf, the present cashier, was promoted to the position. The report of the bank at the close of business February 28, 1896, showed a surplus fund and divided profits of $41,307, and deposits amounting to $171,919.

MIDDLESEX BANK was chartered in 1832, and was located in East Cambridge. William Parmenter was elected president, and William Whitney cashier. The bank, after a short existence, was obliged to wind up its affairs; it redeemed its circulation, paid its depositors in full, and forty-two per cent. of its capital to its stockholders.

In 1853 the LECHMERE BANK was chartered with a capital of $100,000. Its first board of directors consisted of Lewis Hall, K. S. Chaffee, Samuel Slocomb, Francis Draper, and Amory Houghton. Lewis Hall was elected president, and John Savage, Jr., cashier. Mr. Hall still holds the office of president. The bank is located on Cambridge Street, East Cambridge, and is very successful. Its capital is $100,000, and February 28, 1896, it reported a surplus fund and undivided profits of $82,090, and deposits of $183,598.

NATIONAL CITY BANK was organized May 30, 1853, under the name of the Cambridge City Bank, with Samuel P. Heywood, Eliphalet Davis, John Livermore, George W. Whittemore, Henry M. Chamberlain, George T. Gale, and William P. Fiske as directors. Mr. Heywood was chosen president temporarily, but he resigned June 9, 1853, and John Livermore was elected in his place. Mr. Livermore is the only one of the ori-

ginal board of directors now living. Edward Richardson was elected cashier. The bank began business in the building then known as the Cambridge Athenæum, now occupied by the Prospect Union. In 1865 the bank was reorganized as a national bank, and in 1885 its charter was extended. The bank was afterward moved to the building on the corner of Main and Norfolk streets, and a few years ago again moved to the present location, Massachusetts Avenue and Inman Street. The bank has had four presidents since its organization: Samuel P. Heywood, John Livermore, George T. Gale, and Edwin Dresser; two cashiers, Edward Richardson and Henry B. Davis. The present board of directors is composed of Edwin Dresser, Frank A. Kennedy, George W. Gale, James W. Hazen, and Henry B. Davis. The capital of the bank is $100,000. Surplus fund and undivided profits at close of business, February 28, 1896, were $82,950, with deposits of $299,390.

CHARLES RIVER BANK. — The first meeting for the purpose of organization was held March 13, 1832, in the office of Levi Farwell, at which meeting Mr. Farwell acted as chairman, with C. C. Little as secretary. The first board of directors chosen was Levi Farwell, J. Coolidge, C. C. Little, J. Brown, A. Stearns, William Brown, William Watriss, and Robert Fuller. On March 30, 1832, a committee consisting of Levi Farwell and C. C. Little made a report recommending John B. Dana as cashier, with a salary of $900 per annum. The committee also reported that it had agreed to take rooms in the building now occupied by the Charles River National Bank, and owned by Harvard University, for a rent of $150 per year. Mr. Dana accepted the position as cashier May 21, 1832.

In 1864 the bank was reorganized as the Charles River National Bank, and has an average deposit of $600,000, with a business through the Boston Clearing House exceeding annually $1,200,000.

The presidents of the institution have been Levi Farwell, elected March 20, 1832, died in 1844; Charles C. Little, elected 1844, died in 1869; Samuel B. Rindge, elected 1869, died in 1883; David B. Flint, elected 1883, resigned in 1887; Charles E. Raymond, elected 1887, resigned 1889. Walter S. Swan, now its president, was elected in 1889. Mr. Dana, its first

cashier, held the position until November 22, 1858, when he resigned, and Eben Snow was elected. Mr. Snow resigned January 1, 1890, and George H. Holmes, the present cashier, was elected.

The board of directors is composed of Walter S. Swan, William T. Richardson (elected a director in 1845), James A. Wood, R. N. Toppan, and William B. Durant. The capital of the bank is $100,000, and it has a surplus and undivided profits of $61,471.

THE FIRST NATIONAL BANK. — In the autumn of 1860, during the period when civil war menaced the country, and filled the public mind with anxious thoughts, and at a time when the country was suffering a consequent financial depression, a few of the leading citizens of Cambridge conceived the idea of organizing a new bank, an action due to the foresight, courage, and enterprise of Mr. Benjamin Tilton, who was its controlling spirit.

The Harvard Bank was organized November 7 under the general banking laws of the Commonwealth, with a capital of $200,000, and occupied rooms in the house known as the Dowse building, at the easterly corner of Main and Prospect streets. Its first directors were Benjamin Tilton, Daniel U. Chamberlin, George Livermore, Alanson Bigelow, John Sargent, Edward Hyde, Charles Wood, Newell Bent, Louis Colby, William A. Saunders, Estes Howe, and Z. L. Raymond; Hon. Charles Theodore Russell acting as solicitor. It was the intention of the directors to begin business on the first day of March, 1861, but the political condition of the country was unsettled, and as the prevention of President Lincoln's inauguration had been threatened, it was decided to postpone opening until after the inauguration had taken place. The banking-rooms were open for business on the 5th of March. An interesting event occurred on the 22d of April, immediately after the breaking out of the war; at a meeting of the directors the following vote was passed: "In consideration of the present exigencies in public affairs, the president of this bank is authorized and requested to tender a loan of $50,000 to the Commonwealth of Massachusetts." This tender was made, and the following reply was received from his Excellency Governor Andrew: —

COMMONWEALTH OF MASSACHUSETTS,
Treasurer's Office,
BOSTON, April 24, 1861.

BENJAMIN TILTON, ESQ., President Harvard Bank.

DEAR SIR, — Your communication of the 22d inst. containing the offer of your bank of a loan of $50,000 has been placed in my hands by his Excellency Governor Andrew for reply.

He desires me to express to your board of directors his sincere gratitude for the intelligent patriotism which has prompted your liberality. No immediate necessity existing for its instant acceptance, I am directed to say, as has already been done in the case of similar offers, that with your permission he will hold your offer in reserve for such future emergencies as may arise.

Very truly yours,
HENRY K. OLIVER,
Treasurer and Receiver General.

The bank paid its first dividend October 1, 1861. On December 30 of the same year, in common with all banks in Boston and vicinity, this bank suspended specie payment. April 28, 1864, articles of association as First National Bank of Cambridge were adopted, and the bank fully organized as a national bank May 16, 1864. On May 24 it was appointed a depository and financial agent of the United States, and began business under this new organization June 1, the board of directors remaining unchanged. Circulating notes to the full amount of its capital, $200,000, were issued. In December, 1875, the bank removed to its present quarters in the Grant Building. In November, 1882, the bank and the community suffered a serious loss in the death of President Tilton, who had been identified with the business interests of the city through many years, and had won a deserved reputation for sagacity.

November 28, 1882, Daniel U. Chamberlin was elected president, and on February 24, 1893, the charter as a national bank was extended to 1903. Since beginning business in 1861 it has paid $640,000 in dividends, and has now a surplus about equal to its capital. Mr. Chamberlin, the president, and Mr. W. A. Bullard, the cashier, are, with one exception, the only persons living who were actively connected with the administration of its affairs when the bank was organized, they having served continuously for thirty-five years. The present board of directors consists of Daniel U. Chamberlin, Henry Endicott,

Henry N. Tilton, Dana W. Hyde, Erasmus D. Leavitt, and W. W. Dallinger.

THE CAMBRIDGE NATIONAL BANK, located at No. 221 Cambridge Street, East Cambridge, was organized in June, 1864, through the efforts of Daniel R. Sortwell, who at that time had just moved into Ward Three from Somerville. The first board of directors consisted of Daniel R. Sortwell, Joseph H. Tyler, John N. Meriam, Charles J. Adams, Thomas Cunningham, Israel Tibbetts, and Joseph A. Wellington. Daniel R. Sortwell was elected president, and John C. Bullard cashier. The bank opened for business August 1, 1864.

The board, as first elected, served without a break until 1874: John C. Bullard was elected in 1875 to succeed John N. Meriam; Alvin F. Sortwell, elected in 1878 to succeed Israel Tibbetts; Gustavus Goepper, elected in 1887 to succeed Charles J. Adams; Charles J. Adams, elected in 1889 to succeed Joseph A. Wellington; George E. Carter, elected in 1895 to succeed Daniel R. Sortwell.

In 1893 the Articles of Association were amended, reducing the number of directors to five.

Daniel R. Sortwell died on October 4, 1894, and the office of president was not filled until the annual election in January, 1895, when Alvin F. Sortwell was elected to succeed him. The present board of directors consists of John C. Bullard, George E. Carter, Thomas Cunningham, Gustavus Goepper, and Alvin F. Sortwell. Mr. Bullard has held the office of cashier since the organization of the bank, and is now serving his thirty-second year in that position. The deposits vary from $280,000 to $370,000, and the surplus and undivided profits are $41,030.30. The bank discounts consist almost altogether of local paper, and it is seldom obliged to buy notes of out-of-town parties.

CAMBRIDGE SAFE DEPOSIT AND TRUST COMPANY. — A special charter for this company was granted by the legislature of 1890, and the Cambridge Safety Deposit Vaults Company, with a capital of $20,000, was organized under the general law in January, 1890, by Messrs. William R. Ellis, Richard H. Dana, James W. Brine, J. Rayner Edmands, and Woodward Emery; the stock was wholly taken by residents of Cambridge. The company leased the two stores and basement in Hilton Block, numbered 1298 and 1300 Massachusetts

Avenue, its present location, and made a contract for the most approved vault and lock work with the Damon Safe Company.

The board of directors consisted of Messrs. James W. Brine, Richard H. Dana, J. Rayner Edmands, William R. Ellis, Moses G. Howe, Joseph B. Russell, and Henry White. Joseph B. Russell was elected president, and John H. Hubbard treasurer; Edmund M. Parker, John H. Hubbard, and Alvin F. Sortwell were elected to the board of directors February 24, 1891.

President Russell resigned on January 20, 1891, and Alvin F. Sortwell was elected to the position, and held the same until the company closed up its affairs and transferred its plant to the trust company.

In the summer of 1892 Henry White, Daniel R. and Alvin F. Sortwell started a subscription to raise $100,000 for the purpose of using the charter for the trust company, granted in 1890. The stock was quickly taken, largely by residents of Cambridge, and the company was organized and opened for business in November, 1892. Alvin F. Sortwell was elected president during organization. The trust company bought out the Cambridge Safety Vaults Company, taking their vaults and fixtures, and the lease of the banking-room.

On account of the pressure of other interests President Sortwell resigned before the company opened for business. Mr. Henry White was elected president; Joseph B. Russell, vice-president; and Louis W. Cutting, treasurer, on September 20, 1892. The board of directors consisted of J. Q. Bennett, O. H. Durrell, J. M. W. Hall, Gardiner M. Lane, William Taggard Piper, Alvin F. Sortwell, E. D. Leavitt, Nathaniel C. Nash, Joseph B. Russell, Moses Williams, and Henry White.

President White resigned in June, 1894, on account of absence in Europe, and Joseph B. Russell was elected in his place, and Alvin F. Sortwell was elected vice-president. The changes in board of directors have been as follows: William J. Underwood in place of J. M. W. Hall, resigned; J. H. Hubbard in place of O. H. Durrell, resigned; H. O. Underwood in place of William J. Underwood, resigned; and William E. Russell and Herbert H. White added to the number.

The total deposits now average over half a million of dollars. Semi-annual dividends have been paid since 1894, and a surplus of over $15,000 accumulated. The silver vaults and safety

boxes in charge of Franklin Perrin, manager, are a feature of the institution, and are a great convenience to the citizens of Cambridge, as is indicated by their increased patronage. In its three years' existence, the deposits have shown a steady and natural increase, and that, too, without drawing from the excellent national banks. The business comes from residents of Cambridge who have heretofore done their banking and had safety boxes in Boston, together with patrons drawn from Arlington, Watertown, Somerville, and other adjoining cities and towns. Interest is credited on daily balances.

THE CAMBRIDGE SAVINGS BANK was incorporated April 2, 1834, under the name of the "Savings Institution in the Town of Cambridge," and bore that name until March 14, 1868, when by act of the legislature it took its present name. Previous to the time of its incorporation there were but nineteen institutions of the kind in the State. The original incorporators were William J. Whipple, William Hilliard, and Levi Farwell, and at a meeting of these gentlemen held in Mr. Hilliard's office on the southerly side of Brighton (now Boylston) Street, October 27, 1834, their number was increased to nine by electing Eliab W. Metcalf, Abel Willard, William Watriss, William Brown, John B. Dana, and Charles C. Little. At a meeting held November 17, 1834, at the Charles River Bank, forty-four more were added to the number, making fifty-three in all. The first choice for president of this time-honored institution was no less a personage than Judge Joseph Story, who was elected November 24, 1834, but his resignation was read at the next meeting, December 19, 1834, so that he never presided at any of its deliberations.

The first active president was Asahel Stearns, elected January 5, 1835. The first vice-presidents were Simon Greenleaf, Samuel King, Charles Everett, and Sidney Willard, who were elected November 24, 1834. The first board of trustees were the above-named president and vice-presidents, John Chamberlin, Eliab W. Metcalf, Anson Hooker, Joseph N. Howe, Jr., William Fiske, Robert Fuller, Edward Brown, Jr., Levi Farwell, Charles C. Little, Ralph Smith, William J. Whipple, and Jacob N. Bates. The first election of a clerk or secretary occurred at the meeting of November 24, 1834, and Mr. John B. Dana was chosen. The first auditors were Charles C. Little, William J. Whipple, and Samuel King, who were elected Jan-

uary 2, 1835, and the first board of investment was chosen at the same meeting, the members of which were Levi Farwell, Ralph Smith, Eliab W. Metcalf, Charles Everett, Charles C. Little, Joseph N. Howe, Jr., and Sidney Willard. The first treasurer was James Hayward, chosen December 19, 1834. The bank evidently began business in Mr. Hilliard's office, for a committee reported January 19, 1835, "that the treasurer can be accommodated with an office in the room occupied by William Hilliard for a sum not exceeding five dollars per quarter," and at the same meeting, which was held at the Charles River Bank, it was voted "that the treasurer be authorized to furnish the said office with such furniture, etc., as he may think necessary." Its first deposit was ten dollars, received from Mehitable Holbrook, January 24, 1835. The bank appears to have been of pecuniary help to its depositors from the start, as Mr. Hayward's first report, made July 23, 1835, when the institution was six months old, shows that a dividend was made of twenty-eight dollars and twelve cents, and that the rate was four per cent. The amount then due depositors was $5896. The amount deposited in the bank during the year ending the fourth Thursday of January, 1846, was $22,424.85; for the year ending the fourth Thursday of January, 1856, $48,192.30; the same date in 1866, $186,887.67; in 1876, $420,184.91; in 1886, $428,046.90; and in the year ending the fourth Thursday of January, 1896, $602,409.03. The amount due depositors on the last-named date was $3,455,769.62.

Mr. John B. Dana was a constant worker for the interests of the bank, from the date of his election to the position of secretary to his decease, March 16, 1878. He acted in that capacity for six years, and was president for the same length of time. He was treasurer sixteen years, and trustee twenty-three years. James H. Wyeth, who is now in active service, has served the bank as auditor twenty years, and has been secretary and trustee for thirty-two years. But the most remarkable term of service in the history of the bank has been that of Mr. Andrew S. Waitt, whose chair has hardly ever been vacant at any meeting of the corporation board of trustees, or board of investment, for a period of forty years. The value of his services to the bank and community cannot easily be estimated.

The names of the presidents and treasurers who have served the bank, with dates of election, are here given. Presidents:

Asahel Stearns, elected January 5, 1835; Levi Farwell, elected December 10, 1838; Simon Greenleaf, elected January 22, 1845; Sidney Willard, elected January 24, 1849; Jacob H. Bates, elected January 21, 1852; Charles C. Little, elected January 25, 1854; Dr. Charles Beck, elected February 8, 1860; Stephen T. Farwell, elected April 9, 1866; John B. Dana, elected February 14, 1872; Charles W. Sever, elected March 16, 1878. Treasurers: James Hayward, elected December 19, 1834; John Owen, elected November 23, 1835; John B. Dana, elected January 27, 1841; William L. Whitney, elected January 21, 1857; Eben Snow, elected November 19, 1866; James M. Thurston, elected March 14, 1873; Oscar F. Allen, elected December 26, 1884. Clerk: James H. Wyeth, elected February 9, 1864.

CAMBRIDGEPORT SAVINGS BANK was incorporated in 1853 by Thaddeus B. Bigelow, Benjamin Tilton, George C. Richardson, Robert Douglas, Charles Wood, Thomas Whittemore, John Sargent, George W. Livermore, Edward Hyde, Jeremiah Wetherbee, Lucius R. Paige, William Greenough, John M. St. Clair, and Aaron Rice. The bank has been successful from its start; its deposits, January 13, 1896, were $3,857,575.49; the number of corporators, 23; number of depositors, 12,164. Its officers are Daniel U. Chamberlin, president; Lucius R. Paige, Asa P. Morse, and Henry Endicott, vice-presidents; Henry W. Bullard, treasurer.

NORTH AVENUE SAVINGS BANK was incorporated March 2, 1872, and organized March 7, 1872, with the choice of Samuel F. Woodbridge, president; William Fox Richardson, Jonas C. Wellington, Cornelius Dorr, and Chandler R. Ranson, vice-presidents; George W. Parke, secretary. Its first board of trustees were Chester W. Kingsley, Warren Sanger, Daniel W. Shaw, Person Davis, John J. Henderson, Daniel Fobes, Henry C. Rand, Horatio Locke, John Davis, David Ellis, Levi L. Cushing, and James H. Collins. At the meeting of the trustees held July 8, 1872, Milton L. Walton was chosen treasurer. The growth of the bank was necessarily slow, owing to the fact that business was begun the year of the great Boston fire, and that the bank was located some distance away from the industrial centre of the city. On January 10, 1896, the deposits were $503,899.52, and there were 2291 depositors. The present officers are: Samuel F. Woodbridge, president; William

Fox Richardson, Cornelius Dorr, Charles F. Stratton, vice-presidents; Milton L. Walton, treasurer.

EAST CAMBRIDGE SAVINGS BANK was incorporated April 29, 1854. The charter members of the corporation were Frederic W. Holland, Joseph Whitney, George Stevens, William Parmenter, John S. Ladd, Caleb Hayden, Ephraim Buttrick, Lewis Hall, Lorenzo Marrett, Norman S. Cate, Charles B. Stevens, Samuel Slocomb, and Anson Hooker.

At the first meeting of the corporation the following board of officers was chosen: president, Frederic W. Holland; vice-presidents, George Stevens, Jesse Hall, and John Taylor; secretary, Ezra Ripley; trustees, Samuel Slocomb, Lewis Hall, Norman S. Cate, Anson Hooker, Lorenzo Marrett, Thomas Hastings, Silas B. Buck, William Wyman, Ezra Ripley, H. N. Hovey, J. S. Ladd, George Fifield.

At the first meeting of the trustees, John Savage, Jr., was elected treasurer, and on May 20, 1854, the bank was opened for business in the banking-rooms of the Lechmere Bank. Mr. Holland continued as president till his removal from the State in 1859, when George Stevens succeeded him and served as president until his death in 1894, when John C. Bullard was chosen.

Mr. Savage, the first treasurer, served in that capacity until 1873, when Samuel Slocomb was chosen, who continued in office until his death in 1887. Miss Mary Lowell Stone, the assistant of Mr. Slocomb, succeeded him, and served until her death in 1889, Mr. William E. Lloyd being then elected. Among those who have served as trustees of the bank appear the names of Moses Clarke, Knowlton S. Chaffee, Joseph H. Tyler, Isaac F. Jones, John H. Leighton, William Hunnewell, John Conlan, Edward W. Bettinson, Thomas S. Hudson, John M. Tyler, Daniel R. Sortwell, Israel Tibbetts, and Enos Reed.

The present board of officers is: president, John C. Bullard; vice-presidents, Lewis Hall, Silas B. Buck, and Alvin F. Sortwell; treasurer and secretary, William E. Lloyd; trustees, James M. Price, Andrew J. Green, Benjamin F. Thompson, Gustavus Goepper, John McSorley, William Goepper, James G. Ferguson, Frank H. Marshall, M. J. Harty, Edward H. Thompson, David Proudfoot, William R. Adams.

From its incorporation until the year 1873 the bank occupied the rooms of the Lechmere Bank. At that time the estate on

Cambridge Street formerly occupied by Dr. Anson Hooker was purchased, and a banking-room fitted up on the lower floor. Here the bank continued until the taking of the land by the county of Middlesex in 1895 compelled a removal. Land on the south side of Cambridge Street, midway between Third and Fourth streets (numbered at present 292), was purchased, and a building erected for the exclusive use of the bank. It is a one-story structure of stone, brick, and iron, as nearly fireproof as is possible. Never in its history has the bank failed to pay its depositors principal and interest, and always a high rate of interest, being one of the thirteen banks in the State which last year paid four and one half per cent. The amount of the total deposit at present is $2,271,977.91, an increase of $622,000 in five years. It has a large surplus — being in amount ten per cent. of the total deposits, and as large in proportion as that of any other bank in the State.

MANUFACTURES.

Cambridge, in the possession of her great university, has a world-wide reputation, yet her manufacturing interests have so largely increased, and have become of such importance, that she has gained another distinction, that of being a great manufacturing centre.

Among the conditions that govern a manufacturer in selecting a place to establish business are favorable location, low price of land and convenience to railroads, a market for labor, and a fair tax rate. He seeks also pure water and an abundant supply, educational facilities, and proper surroundings for the home life of his employees. Cambridge is unsurpassed in all of these respects by any other place in the vicinity of Boston.

The Boston & Albany Railroad passes through the manufacturing district of Cambridge, and affords quick connection with all the other railroads centring in Boston. The advantage of tide-water so near at hand, and the cheapest possible water freights for coal and raw materials and for the delivery of manufactured products in all parts of the world, add to the attractions offered in Cambridge to great manufacturing industries.

Upwards of five million square feet of land available for manufacturing purposes, situated in the midst of large and

flourishing industries already established, are still to be occupied. This territory is distant less than one mile from the State House in Boston, and it can be purchased for a lower figure than that quoted for desirable locations in either East Boston, South Boston, or Charlestown.

Woodward Emery, Esq., chairman of the Massachusetts Harbor and Land Commission, referring to this section of Cambridge, says: —

"The East Cambridge Land Co. was established under a charter from the Commonwealth more than quarter of a century ago, for the purpose of improving the vacant marsh lands in East Cambridge lying between Third and Portland streets, Broad, Canal, and Charles streets, and including about three million square feet of land. It was organized by Gardiner G. Hubbard, who may fairly be called the father of three great enterprises which have greatly benefited the city, to wit: the horse railroad, the gas company, and the water-works; the late Estes Howe, a name associated with many Cambridge enterprises of public interest and character; Charles W. Munroe, whose father owned and improved a considerable amount of real estate in the city; and their associates. The improvement of this property, by the laying out and building of streets, adapted it for manufacturing industries and mechanical enterprises. The Grand Junction branch runs through the property from north to south, with a spur track to the eastward, so located as to offer ready facilities to works which may become established upon its line. Since the development of this property, the company has sold more than two million feet of its land. The George F. Blake Manufacturing Co., The Boston Bridge Co., The Boston Woven Hose Co., The American Rubber Co., and others, have purchased, erected plants, and established large businesses in these lands. Many of these manufacturing plants were located in this locality after a thorough examination and exhaustive study; as the proprietor of one of them said: 'Of the suburbs of Boston beginning at East Boston, and following the Boston and Albany Railroad through East Boston, Chelsea, Everett, Charlestown, Somerville, and Cambridge, and examining all vacant lands on railroads entering Boston not too remote for our purpose, the result of this careful examination was the choice of the present location of the works. The price was found very reasonable compared with any other

land so near Boston. We have at times made three round trips daily to different parts of Boston with heavily loaded teams. We have never regretted our choice of location, and believe that the steady and large growth of the business has been in no small degree due to the advantages of our situation. I have never been able to quite understand why those seeking choice situations for manufacturing plants have so far overlooked the exceptional advantages offered by this and other regions in Cambridge, unless it is due to the lack of proper public information.'

"The foregoing testimony from one of the early settlers on these lands bears witness to the great advantages of locating in Cambridge industries of a kind for which its territory is so well adapted."

Cambridge has a population of intelligent operatives, and its nearness to the labor-market of the great city of Boston relieves the manufacturer of the problem where to obtain skilled labor, — a problem that in many places is a difficult one to solve.

Within the manufacturing district, and along the banks of the Charles River, Cambridge is building a system of parks, conveniently located and surrounding its entire territory. The workmen in the factories and the toilers in the shops thus have places easy of access, where throughout the hot summer months they can find green lawns, trees, sunlight, and fresh air, the necessary and welcome relief from the dusty streets and crowded tenements of a city. Every manufacturer will at once appreciate the effect of such parks upon the health, happiness, and morality of employees.

Commercial Avenue, which the Park Department is now constructing, will connect Main Street with Bridge Street and Prison Point Street, Charlestown. It will border the East Cambridge Embankment Park, which is to be finished from plans similar to those used for the Charlesbank on the Boston side. Along this avenue and facing the park will be found most admirable sites for the location of model apartment houses and homes for the workman and mechanic.

The educational facilities of Cambridge, its libraries and other institutions free to all, are fully described in the preceding chapters. They commend themselves to all manufacturers, for the greater the advantages given to their employees, the better will business interests be served.

The Prospect Union is an institution that appeals directly to the wage-earner. It is located in the "old" city hall on Massachusetts Avenue. This institution is peculiar to Cambridge, and is made possible by the coöperation of professors, teachers, and students from Harvard University, who give their time freely and without pay to its work. Its president shows fully and clearly in his paper in another part of this volume the value of the work to the wage-earner, and hence to the employer and to the city.

Another consideration that must have great influence in deciding a manufacturer to locate his business in Cambridge is the absence of the saloon. For ten years the people at the annual municipal elections have voted in favor of no license, and the effect upon the city is shown in many ways. Especially is there a marked decrease in the business of the police courts, and the large increase in the deposits in the savings banks, these deposits having increased from $6,136,257 in 1885 to $10,089,222 in 1896.

In fire protection the department under Chief Casey is one of the most efficient in the State. It numbers forty-three permanent and eighty-eight call men, and has in service seven steam fire-engines, with five hose wagons and two hose carriages, two chemical engines, two hook-and-ladder trucks, one aerial truck, and twenty chemical extinguishers. Eight hundred and sixty-seven hydrants are available for fire purposes. It has also reserve or spare apparatus composed of one steam fire-engine, two hose carriages, and one ladder truck. The appropriation for the maintenance of the department for 1896 is $85,500.

Cambridge has a competent police force, consisting of a chief, three captains, one inspector, eight sergeants, and eighty-two patrolmen. Two sergeants and twenty-two patrolmen are on duty in the daytime, and six sergeants and sixty patrolmen during the night-time. The appropriation for the police department for 1896 is $112,000.

Cambridge is fortunate in the possession of an independent water supply of pure water. The natural daily yield of Fresh Pond is about 1,000,000 gallons, the maximum supply of water which can be furnished through the thirty-inch main from Stony Brook basin is 8,000,000 gallons per day. The consumption of water in 1895 averaged almost 6,000,000 gallons

per day. Considering the average annual increase in the use of water during the last eight years, the limit of the present supply will not be reached until 1901. By that time the Hobbs' Brook basin will be completed, and the storage capacity so enormously increased that it can then be safely stated that Cambridge will have sufficient water for her needs for the next quarter of a century. The water board has ever shown rare judgment and marked ability in managing its department.

THE CAMBRIDGE MUTUAL FIRE INSURANCE CO.

This company, which is now looked upon as one of the substantial and successful financial institutions of our city, had rather a precarious existence for a number of years subsequent to its organization in 1833. It was established by some of the most worthy and prominent merchants of the town; but not having had experience in the insurance business, they found hard work to keep the company alive. It however gave its policy holders indemnity for loss through the various years until 1850, by successive assessments, when new methods were adopted, and it gradually became stronger until the Boston fire of 1872 reduced its assets to about $50,000, with nearly $5,000,000 at risk.

During this time the company had long been under the presidency of the late Josiah W. Cook, with H. M. Chamberlain, Abram Lansing, Henry Thayer, and J. A. Smith as secretaries. In 1873 a change was made; Mr. Cook becoming aged and feeble, the management was placed in the hands of Alfred L. Barbour as secretary, — a Cambridge young man who had been educated in the public schools of our city, and who with an able board of directors has managed it ever since. Upon the death of Mr. Cook, Dana W. Hyde was elected president, and the company has increased its assets from $50,000 to nearly $240,000, owning its present fine building next to the city hall, and about $150,000 invested in good securities. The company stands now among the best of the mutuals of the State.

Water is supplied to manufacturers at low rates, as is shown in the following

Table of comparative water rates in twelve cities.

	FAMILY RATES.								METER RATES.			
	First faucet.	Additional faucet.	Bath-tub.	Water closet.	Additional bath-tub.	Additional water closet.	Hose.	Maximum rate.	Manufactures: per C gall.	Steam and electric railroad: per C gall.	All other purposes: per C gall.	Per hundred gals. for excess of amount over 6,000,000 gals. in any one year.
Cambridge, Mass.	$4.00	$2.00	$5.00	$3.00	$3.00	$2.00	$5.00	$20.00	1½c.	2c.	3c.	1c.
Fall River.	5.00	2.50	5.00	5.00	4.00	3.00	6.00	30.50	3c. for all purposes.			
Fitchburg.	6.00	2.00	4.50	5.00	3.00	3.00	5.00	28.50	3½c. for all purposes.			
Lowell.	6.00		ave. 3.00	ave. 3.00	1.00	2.00	3.00	No limit	Varies from year to year.			
Lynn.	5.00	1.00	3.00	3.00	2.00	2.00	4.00	24.00	2c. for all purposes.			
Springfield.	8.00	6.00	4.00	4.00	2.00	2.00	5.00	31.00	3c. for all purposes.			
Worcester.	6.00		5.00	4.00	2.00	2.00	5.00	24.00	2½c. for all purposes.			
Hartford, Conn.	6.00		1.00	3.00		1.00	3.00	No limit	2c. for all purposes.			
Providence, R. I.	6.00	2.00	5.00	5.00	3.00	3.00	5.00	40.00	2½c. average rate.			
Manchester, N. H.	5.00	1.00	2.50	1.25	2.50	1.25	5.00	No limit	2c.			
Portland, Me.	10.00		5.00	6.00	2.50	3.00	5.00	40.00	-	-	-	-
Erie, Pa.	5.00	1.50	3.00	3.00	1.00	1.50	5.00	No limit	1c. average rate.			

The valuation of Cambridge and its assets and liabilities are also of interest in connection with this chapter on manufacturing.

Statement of the valuations of the personal property and real estate of the City of Cambridge, with the number of polls, dwellings, and rate of taxation for the past ten years: —

Year.	Polls.	Personal.	Real Estate.	Total.	Dwellings.	Rate per $1000.
1886	16,534½	$14,490,470	$44,955,200	$59,445,670	9,398	$15.00
1887	17,139½	13,358,910	46,344,700	59,703,610	9,761	16.00
1888	18,086¾	14,296,740	48,420,600	62,717,340	9,927	15.00
1889	18,307¼	14,960,100	50,324,175	65,284,275	10,222	16.00
1890	19,221¾	15,339,925	52,235,000	67,574,925	10,615	15.60
1891	20,731¼	16,508,770	54,167,914	70,676,684	10,932	15.50
1892	22,013¼	17,687,595	56,668,100	74,355,695	11,359	16.00
1893	22,752	17,511,089	58,782,900	76,293,989	11,768	16.40
1894	22,172	16,658,320	60,877,300	77,535,620	12,262	15.80
1895	22,781	16,607,360	64,303,700	80,911,060	12,305	15.70

Comparative statement by decades from 1855 to 1895.

	1855.	1865.	1875.	1885.	1895.
Population	20,637	29,112	47,838	59,660	81,519
Valuation	$15,437,100.00	$26,085,900.00	$66,623,014.00	$55,346,555.00	$80,911,060.00
City Tax	100,604.53	267,708.60	1,060,396.52	804,800.00	1,103,455.30
County Tax	10,137.78	18,280.99	37,580.73	29,381.54	73,887.84
State Tax	5,190.00	118,487.00	58,880.00	44,835.00	46,800.00
Tax rate per $1000	7.10	15.00	17.00	15.50	15.70
Total Expenditures	173,533.58	536,911.82	2,605,267.74	2,354,298.69	3,686,702.54
City Debt	146,600.00	833,092.00	4,106,843.21	2,361,396.50	3,913,634.23
Expenditures by Departments: —					
Bridges	890.31	9,007.77	39,068.39	11,829.77	16,297.33
Cemeteries	6,553.67	16,742.29	19,438.66	80,399.22	16,999.40
Fire Dept.	9,623.70	21,958.74	89,949.99	59,341.15	104,898.59
Lighting Streets	2,987.32	9,062.24	20,919.04	32,269.07	69,926.61
Pauper Dept.	8,520.41	21,481.52	79,719.54	56,338.24	100,841.33
Police Dept.	4,499.56	22,833.14	71,093.35	78,357.73	110,784.22
Public Library		1,111.77	6,040.04	6,643.51	21,034.83
Schools	32,169.16	81,842.47	258,985.15	227,511.77	362,353.79
Sewers	4,610.68	3,683.07	135,432.28	40,945.40	149,459.89
Streets	14,554.73	35,638.38	155,476.90	148,088.65	252,154.62
Water-Works		20,327.79	234,431.03	485,691.04	758,054.81

Balance Sheet of the City of Cambridge, December 1, 1895, showing Assets and Liabilities.

	Assets.	Liabilities.
Cemetery fund	$33,657.39	
City debt (contingent)		$200,000.00
City of Cambridge (city property)	3,552,188.88	
City treasury (cash)	268,516.87	
Daniel White Charity (trust fund)		5,000.00
Dowse Institute Fund (trust fund)		10,000.00
Funded city debt		2,756,000.00
Funded water debt		2,215,500.00
Sanders Temperance Fund (trust fund)		10,000.00
Sinking funds	511,816.53	
Sinking fund of water-works	546,049.24	
Taxes due the city	267,320.13	
Tax liens	17,470.37	
Tax sale "surplus"		519.41
	$5,197,019.41	$5,197,019.41

The following is a schedule of property used for religious, charitable, and educational purposes, and exempt from taxation by law, not including that owned by the city of Cambridge, as shown on the assessors' books November 30, 1885 : —

Churches	$1,522,700.00
Young Men's Christian Association	18,025.00
Charitable Institutions	258,006.01
Cambridge Hospital	211,794.71
Longfellow Memorial Association	62,442.14
County buildings	622,000.00
Harvard University	8,740,848.00
Radcliffe College	233,000.00
Episcopal Theological School	368,840.41
New-Church Theological School	134,039.00
Catholic Schools	300,400.00
Cambridge Social Union	18,700.00
Miscellaneous	34,400.00
	$12,525,195.27

Manufacturing in Cambridge in the early part of the present century was confined principally to soap, cordage, and leather. In 1828 a young man named Charles Davenport, then but sixteen years of age, was apprenticed to George W. Randall, of Cambridgeport, to learn the woodwork of the coach and carriage making trade. In 1832 Captain E. Kimball and he bought Mr. Randall out, and he started for himself with two journeymen and four apprentices. Captain Kimball was landlord of the Pearl Street Hotel, and, in connection with a livery stable, ran a coach two or three times a day between Cambridge and Boston. He furnished the money. Mr. Davenport thereafter built all the carriages of the establishment. In 1833–34 the firm built a large number of all kinds of vehicles, including sleighs, and the first omnibus built in New England. In 1834 they took the contract to build some four-wheel railway cars for the Boston & Worcester Railroad, to seat twenty-four people each. They were the first ever designed with a passageway running from end to end between the seats.

In 1836–37 he built for the Eastern Railroad twenty four-wheel cars with platforms and doors on the ends and a passage through each car. His shop at this time was located on Main Street, where the Morse Building now stands. The firm names of Kimball & Davenport and Davenport & Bridges will long be remembered by railroad men. Mr. Davenport was the first large car-builder in the United States, and the first typical American railway passenger car was built in Cambridge from his design.

The following table, made from figures obtained from Horace G. Wadlin, Chief of the Bureau of Statistics of Labor, shows the amount of manufacturing in Cambridge in decades since 1845. A fair estimate of the industrial product at the present time would place the amount at fully $50,000,000.

MANUFACTURES IN CAMBRIDGE FOR THE YEAR ENDING APRIL 1, 1845.

Goods Made.	Number of Establishments.	Value.	Capital Invested.	Persons Employed.
Ice-cutters or ice-plows	1	$1,128	$300	2
Latches and door-handles	1	1,500	150	4
Glass	3	334,000	302,000	241
Starch	1	8,450	3,000	4
Chemical preparations	2	20,250	2,200	9
Musical instruments	1	6,000	2,500	7
Brushes	3	18,000	4,300	81
Saddles, harnesses, and trunks	9	10,630	2,450	16
Upholstery	1	1,000	200	1
Hats and caps	4	24,500	7,700	31
Cordage	4	31,000	3,600	32
Railroad cars, coaches, and other vehicles	20	208,000	33,000	127
Soap and tallow candles	19	358,347	191,100	96
Chairs and cabinet ware	4	14,000	3,500	19
Tinware	6	10,800	4,200	13
Leather	6	18,700	5,100	20
Boots and shoes	–	45,596	–	91
Brick	–	86,460	–	168
Snuff, tobacco, and cigars	–	47,000	–	67
Whips	–	700	–	1
Blacking	–	4,200	–	2
Blocks and pumps	–	650	–	2
Mechanics' tools	–	2,000	–	4
Fancy and shaving soap	–	10,000	3,000	5
Oil bleached	–	95,000	17,000	10
Pocketbooks	–	2,500	500	4
Confectionery	–	29,400	6,000	18
Earthenware	–	2,000	300	2
Ladders	–	1,500	200	3
Sashes, blinds, etc.	–	11,600	2,600	14
Marble monuments, chimney-pieces, etc.	–	1,800	1,000	3
Paper hangings	–	10,500	2,300	16
Astral lamps	–	500	100	1
Stoves	–	3,000	2,000	4
Fringes and tassels	–	15,000	2,000	50
Surgical and other instruments	–	20,000	10,000	20
Barrels	–	1,620	400	3
Strong beer	–	6,000	1,000	2
Saws, hatchets, and other edge tools	1	40,000	25,000	18

Goods Made.	Number of Establishments.	Value.	Capital Invested.	Persons Employed.
Shovels, spades, forks, and hoes	–	2,000	1,000	2
Cards	2	41,400	25,000	7
Firewood prepared	–	450	–	2
Woolen and cotton stuffs, silk and cotton handkerchiefs	1	150,000	15,000	20
Dyewoods, drugs, and spices	3	418,800	27,000	13
Mahogany turned and sawed	2	22,000	10,000	14
	94	$2,137,981	$776,700	1,269

MANUFACTURES IN CAMBRIDGE FOR THE YEAR ENDING JUNE 1, 1855.

Goods Made.	Number of Establishments.	Value.	Capital Invested.	Persons Employed.
Iron railing, iron fences, and iron safes	1	$1,200	$1,000	4
Britannia ware	1	40,000	25,000	25
Glass	2	620,000	575,000	531
Starch	1	14,000	4,000	4
Chemical preparations	2	4,600	2,500	4
Pianoforte actions	3	10,000	4,000	10
Church organs	1	12,000	4,000	8
Brushes	3	192,200	114,000	208
Saddles, harnesses, and trunks	6	15,300	5,200	14
Upholstery	1	3,000	2,000	3
Hats and caps	5	–	16,500	58
Cordage	1	–	6,000	10
Railroad cars, coaches, chaises, wagons, sleighs, and other vehicles	7	137,700	17,800	93
Oil	2	126,000	30,000	7
Soap and tallow candles	16		1,300,000	140
Chairs and cabinet ware	5	128,500	68,000	168
Tinware	7	27,700	15,200	23
Linseed oil	1	90,000	50,000	10
Hides tanned	1	2,500	1,500	3
Leather curried	2	90,000	20,000	18
Boots and shoes	–	23,600	–	51
Brick	–	1,834,000	–	–
Snuff, tobacco, and cigars	–	388,700	–	42
Building stone	–	67,000	–	72
Blocks and pumps	–	10,000	–	4
Sashes, doors, and blinds	1	7,000	2,000	7
Gas	1	20,000	100,000	6

Goods Made.	Number of Establishments.	Value.	Capital Invested.	Persons Employed.
Bread	7	167,500	–	44
Type	2	71,000	17,000	95
Boxes (soap, candle, and paper)	4	34,000	64,000	36
Ladders	1	8,000	3,000	20
Feather dusters	1	5,000	1,000	5
Printing and bookbinding	3	175,000	41,000	120
Confectionery	2	110,000	30,000	18
Leather dressing	1	10,000	5,000	3
Wood-turning	1	25,000	10,000	2
Sweep sawing	1	45,000	20,000	4
Planing-mills	1	12,000	4,000	6
Cigar boxes	1	8,000	2,000	2
Bacon	2	60,000	23,000	30
Penrhyn marble	1	125,000	60,000	35
Wash leather	1	6,000	2,500	4
Shovels and ladders	1	5,000	2,000	4
Clothes and fish lines	1	5,000	2,000	6
Marble	1	10,000	4,000	6
Persian sherbet	1	7,000	10,000	3
Pulpits	1	6,000	2,500	5
Cement	1	–	1,000	2
Saws	1	40,000	30,000	35
Cards	1	2,000	1,000	2
Woolen goods	1	18,600	–	25
Mechanical tools	–	1,000	–	1
	108	$4,821,100	$2,698,700	2,036

MANUFACTURES IN CAMBRIDGE FOR THE YEAR ENDING MAY 1, 1865.

Number of establishments	173
Value of goods made	$6,942,063 [1]
Capital invested	2,447,559 [1]
Value of stock used	2,918,439 [1]
Males employed	2,710
Females employed	429

[1] Currency values, average gold being $1.57.

MANUFACTURES IN CAMBRIDGE FOR THE YEAR ENDING MAY 1, 1875.

Goods Made.	Number of Establishments.	Capital Invested.[1]	Value of Goods Made and Work Done.[1]
Artists'materials	2	$400	$2,672
Barrels	1	30,000	201,000
Barrels and harnesses	2	57,500	56,650
Boats	1	2,500	18,000
Boilers, tanks, etc.	2	55,000	180,550
Boots and shoes	7	3,150	9,135
Bookbinding	2	72,000	435,300
Book and pamphlet printing	3	420,000	551,000
Bread, cake, and pastry	13	46,800	261,222
Brick	7	513,000	249,275
Britannia ware, stationers' hardware, etc.	1	30,000	33,000
Brooms	2	1,500	9,375
Brushes	3	90,000	221,000
Buildings	8	105,000	377,500
Carriages, wagons, sleighs, etc.	9	55,500	83,885
Car springs	1	6,000	12,000
Car wheels	1	20,000	34,000
Cigars	12	12,300	49,978
Clothing, men's	6	14,550	79,900
Coffins, robes, etc.	2	100,500	175,350
Collars and cuffs, paper	1	140,000	550,000
Confectionery and ice cream	5	22,081	131,375
Cordage	3	650	9,700
Crackers	2	92,000	500,000
Diaries	1	130,000	150,000
Drain pipes, chimney tops, etc.	1	10,000	75,000
Earthenware	2	60,700	60,000
Engine polish, boiler composition, etc.	1	500	5,000
Fishing-rods	1	50	1,050
Furniture, house, church, and office	10	150,300	616,837
Furnace registers and borders	1	3,000	8,725
Gas	1	950,000	248,100
Glassware	2	500,000	370,500
Glass syringes, tubes, etc.	1	500	5,000
Hardware	1	10,000	15,750
Hats and bonnets, women's	1	500	800
Ice	2	125,000	32,500
Iron castings	1	10,000	40,000
Iron rolled	1	160,000	420,000
Ladders, steps, clothes driers, etc.	2	15,000	10,500
Leather	5	110,000	605,646
Lumber planed, etc.	1	10,000	50,000
Machinery	4	386,000	480,493
Mats, door	1	4,000	8,000
Medicines, proprietary	2	108,000	170,000
Monuments, mantels, tablets, etc.	7	91,500	138,080

[1] Figures being in currency, average gold being $1.12.

Goods Made.	Number of Establishments.	Capital Invested.[1]	Value of Goods Made and Work Done.[1]
Mouldings, brackets, boxes, etc.	3	265,000	231,000
Newspapers, magazines, etc.	6	35,000	103,600
Oil clothing and waterproof hats	1	9,000	35,000
Oleomargarine and stearine	1	50,000	69,000
Organs, cabinet and church	3	571,000	1,036,000
Patterns, wooden	1	200	1,000
Photographs	1	5,000	15,000
Pianofortes	1	10,000	6,060
Pianoforte actions	2	12,000	33,200
Piano and organ key-boards	1	33,000	137,604
Piano taborets	1	400	4,000
Picture frames	3	5,300	10,700
Pocketbooks	1	1,000	6,195
Printing, job	3	21,000	27,500
Pumps, wooden	1	300	250
Roofing cement	2	6,000	17,500
Rum	1	45,000	199,347
Sausages	3	5,500	31,000
Shirts, cuffs, and collars	1	550	7,500
Shirts, overalls, and jumpers	1	1,000	4,000
Slippers	1	10,000	120,000
Soap, tallow, and candles	9	168,500	928,800
Spring-beds and cots	2	18,000	51,300
Stair rails, balusters, etc.	2	4,500	22,550
Steel engravings	1	2,000	4,000
Sugar refined	1	500,000	4,000,000
Telescopes	1	20,000	10,000
Tinware	5	204,850	321,068
Trunks and valises	1	3,000	14,800
Tools for ice-cutting	2	4,500	9,790
Wood, sawed and turned	1	65,000	80,000
Washstands and woodwork for sewing-machines	1	700	1,550
Whips	1	300	1,200
Aggregates	210	$6,803,081	$15,284,362

[1] Figures being in currency, average gold being $1.12.

VALUE[1] OF BUILDINGS USED FOR MANUFACTURING PURPOSES, STOCK ON HAND, AND MACHINERY IN CAMBRIDGE FOR THE YEAR ENDING MAY 1, 1875.

Number of establishments	207
Value of buildings	$1,644,025
Value of average stock on hand	2,215,412
Value of machinery	1,071,060
Value of imported machinery	5,700

[1] In currency, average gold being $1.12.

NUMBER OF ESTABLISHMENTS ENGAGED IN MANUFACTURING IN CAMBRIDGE DURING THE YEAR ENDING JUNE 30, 1885.

Industries.	Number of Establishments.	Industries.	Number of Establishments.
Artificial teeth and dental work	11	Liquors: malt, distilled, and fermented	5
Artisans' tools	1	Lumber	1
Boots and shoes	33	Machines and machinery	10
Boxes (paper and wooden)	6	Metals and metallic goods	51
Brick, tiles, and sewer pipe	7	Musical instruments and materials	9
Brooms, brushes, and mops	3	Paints, colors, and crude chemicals	1
Building	121	Photographs and photographic materials	7
Burial cases, caskets, etc.	5	Printing, publishing, and bookbinding	15
Carpetings	2	Railroad construction	1
Carriages and wagons	31	Rubber and elastic goods	1
Cement, kaolin, lime, and plaster	2	Scientific instruments and appliances	3
Chemical preparations (compounded)	2	Shipbuilding	2
Clothing	67	Sporting and athletic goods	1
Cooking, lighting, and heating apparatus	1	Stone	15
Cordage and twine	3	Tallow, candles, soap, and grease	12
Drugs and medicines	28	Tobacco, snuff, and cigars	13
Dyestuffs	1	Trunks and valises	1
Earthen, plaster, and stone ware	2	Whips, lashes, and stocks	1
Fine arts and taxidermy	1	Wooden goods	13
Food preparations	45		
Furniture	24		
Gas and residual products	1		
Glass	2		
Hair work (animal and human)	1		
Hose: rubber, linen, etc.	1		
Leather	15	All industries	578

MANUFACTURES IN CAMBRIDGE DURING THE YEAR 1890: BY SELECTED INDUSTRIES.

Mechanical and Manufacturing Industries.	Number of Establishments Reporting.	Capital.		Miscellaneous Expenses.	Average Number of Employees.	Total Wages.	Cost of Materials Used.	Value of Goods Made and Work Done.
		Value of Hired Property.	Direct Investment.					
Blacksmithing and wheelwrighting	49	$70,800	$89,669	$9,091	153	$107,382	$53,572	$195,805
Bookbinding and blank-book making	3	11,350	10,900	1,218	34	18,625	4,514	27,000
Boots and shoes, custom work	84	116,650	8,828	10,672	128	62,220	26,338	104,169
Boxes, wooden packing	4	42,620	172,332	14,455	175	95,152	119,042	290,897
Bread and other bakery products	35	160,000	381,068	72,971	506	240,141	741,326	1,417,140
Brick and tile	7	2,500	691,839	23,306	576	217,092	159,180	489,800
Brooms and brushes	4	1,200	85,725	6,243	51	19,724	43,963	103,835
Carpentering	102	28,265	564,090	93,264	707	519,549	733,228	1,580,500
Carriage and wagon materials	4	5,538	400	405	5	2,295	1,524	4,700
Carriages and wagons	13	65,750	171,675	12,988	172	117,458	104,303	280,225
Clay and pottery products	3	–	134,300	2,402	96	43,670	17,630	82,700
Clothing, men's, custom work	41	137,450	59,615	13,491	188	92,596	79,309	202,888
Clothing, men's, factory product	3	4,875	97,555	2,175	178	65,320	156,512	266,000
Clothing, women's, dressmaking	281	371,735	40,160	34,138	605	165,333	263,698	475,803
Coffins and burial caskets, trimming and finishing	5	20,000	5,650	3,265	11	7,250	16,644	27,800
Confectionery	25	104,061	191,895	19,479	347	142,062	362,819	684,875
Cooperage	14	43,900	53,281	9,821	105	56,349	83,769	160,467
Dentistry, mechanical	13	26,625	3,265	2,544	15	8,181	6,089	17,450

Druggists' preparations	40	30,810	11,305	3,027	50	12,259	21,391	43,514
Foundry and machine-shop products	15	292,891	2,092,076	423,106	1,075	704,081	827,489	2,478,730
Furniture, cabinet making, and upholstering	37	83,200	31,545	9,646	111	63,376	53,905	128,000
Furniture, factory product	11	257,100	364,398	58,652	636	425,349	227,599	756,740
Glass, cutting, staining, and ornamenting	3	4,000	6,400	590	12	8,413	5,676	19,200
Leather, tanned and curried	3	–	42,700	3,143	73	45,960	300,450	369,000
Locksmithing and gunsmithing	6	9,600	1,295	920	7	3,143	1,922	5,700
Looking-glass and picture frames	3	12,750	6,100	1,574	12	6,980	10,955	25,250
Lumber, planing-mill products	5	6,665	223,008	10,804	225	145,050	193,156	384,470
Marble and stone work	8	28,125	115,500	4,242	127	96,370	123,683	264,000
Masonry, brick and stone	45	72,625	131,205	16,301	362	243,190	143,156	427,647
Mattresses and spring-beds	4	5,275	23,475	984	21	9,409	9,100	24,565
Millinery, custom work	24	61,100	11,797	5,787	58	21,404	22,097	51,800
Monuments and tombstones	8	12,565	96,375	3,529	69	45,349	21,407	95,200
Musical instruments, organs, and materials	3	750	903,238	69,588	380	277,223	197,077	642,870
Musical instruments, pianos, and materials	9	256,460	543,471	65,984	514	329,514	328,767	907,813
Painting and paper-hanging	77	127,375	75,520	16,904	307	213,711	98,193	356,800
Patent medicines and compounds	3	3,250	680	500	4	950	1,687	3,450
Photography	6	13,175	3,385	1,471	8	3,900	2,666	9,200
Plastering and stucco work	17	32,100	25,560	4,956	105	77,610	30,610	123,600
Plumbing and gas-fitting	32	100,885	112,426	14,427	201	138,010	142,921	356,790
Printing and publishing, book and job	8	132,166	89,173	16,835	279	175,359	42,033	251,369
Printing and publishing, newspapers and periodicals	9	333,160	1,597,082	318,558	628	379,438	567,671	1,556,056
Roofing and roofing materials	10	16,400	12,990	3,929	44	29,205	19,497	57,250
Saddlery and harness	14	34,135	9,085	3,239	30	19,704	13,901	46,599
Sausage	3	4,300	9,575	1,140	17	10,550	38,888	55,750
Soap and candles	8	80,112	561,769	39,610	292	160,676	978,362	1,303,870
Tinsmithing, coppersmithing, and sheet-iron working	18	78,400	145,127	31,378	131	73,403	137,608	319,603
Tobacco	13	30,550	16,350	5,673	40	22,749	16,272	54,431

MANUFACTURES IN CAMBRIDGE DURING THE YEAR 1890: BY SELECTED INDUSTRIES — *Continued.*

Mechanical and Manufacturing Industries.	Number of Establishments Reporting.	Capital.		Miscellaneous Expenses.	Average Number of Employees.	Total Wages.	Cost of Materials Used.	Value of Goods Made and Work Done.
		Value of Hired Property.	Direct Investment.					
Watch, clock, and jewelry repairing	17	39,250	4,635	3,698	32	17,550	2,977	29,400
Wood, turned and carved	4	11,200	19,300	3,007	36	22,690	12,195	36,846
All other industries (*a*)	79	552,680	10,282,793	895,122	4,320	1,996,839	12,701,763	18,367,522
All industries	1,232	$3,936,373	$20,331,585	$2,370,252	14,258	$7,759,813	$20,268,534	$35,975,089

(*a*) Embraces baking and yeast powders, 1; bicycles and tricycles, 1; boots and shoes, rubber, 1; boxes, fancy and paper, 1; brass, 1; cheese and butter, urban dairy product, 1; chemicals, 1; coffins, burial cases, and undertakers' goods, 1; collars and cuffs, paper, 1; cordage and twine, 2; cotton goods, 1; cutlery and edge tools, 2; dyeing and cleansing, 2; electrical apparatus and supplies, 1; engraving and die-sinking, 1; fancy articles, not elsewhere specified, 2; fertilizers, 1; flavoring extracts, 2; food preparations, 2; fur goods, 1; furniture, chairs, 1; galvanizing, 1; gas, illuminating and heating, 1; gloves and mittens, 1; hairwork, 2; hardware, 1; hats and caps, not including wool hats, 1; hosiery and knit goods, 1; instruments, professional and scientific, 1; iron and steel, 1; ironwork, architectural and ornamental, 1; kindling wood, 2; labels and tags, 1; lime and cement, 1; liquors, distilled, 1; models and patterns, 1; musical instruments and materials, not specified, 2; nets and seines, 1; optical goods, 1; paving and paving materials, 1; photographic materials, 1; pickles, preserves, and sauces, 1; plated and britannia ware, 1; plumbers' supplies, 2; pulp goods, 1; rubber and elastic goods, 1; safes and vaults, 1; sewing-machine repairing, 2; shipbuilding, 2; slaughtering and meat-packing, wholesale, 2; slaughtering, wholesale, not including meat-packing, 1; sporting goods, 1; springs, steel, car, and carriage, 1; stamped ware, 2; stationery goods, not elsewhere specified, 1; steam-fittings and heating apparatus, 1; steam-packing, 2; tools, not elsewhere specified, 1; trunks and valises, 2; umbrellas and canes, 1; vinegar and cider, 1; whips, 1; window shades, 1.

GENERAL STATISTICS OF MANUFACTURES IN CAMBRIDGE FOR THE YEAR ENDING JUNE 30, 1885.

Classification of Establishments.	Number of Establishments.	Number of Partners and Stockholders.	Amount of Capital Invested.	Value of Stock Used.	Value of Goods Made and Work Done.	Number of Persons Employed.	Total Wages Paid.
Private firms	558	691	$5,603,394	$4,971,696	$9,939,295	5,143	$2,222,324
Corporations	20	935	6,269,022	2,509,959	5,563,078	3,636	1,420,995
Total	578	1,626	$11,872,416	$7,481,655	$15,502,373	8,779	$3,643,319

PRINTING AND PUBLISHING.

The history of printing in Cambridge shows conclusively that as a centre of the art the city has no rival of its size in the world. The combined output from the three great establishments, The Riverside Press, The University Press, and The Athenæum Press is enormous, and "the civilizing and educating influence thus exerted can hardly be exaggerated."

The first printing in the colonies was done in Cambridge, and is described in the following extracts from an address made to the members of the Citizens' Trade Association, in 1894, by the late Henry O. Houghton.

HON. H. O. HOUGHTON'S ADDRESS.

The first printing in the English-speaking colonies of this country was done here in Cambridge. The history of its progress is very interesting.

A clergyman by the name of Glover left England with a printing-press, two or three workmen, and his family, for this country in 1638. He died on the passage, and the press was set up in January, 1639, in the house of the first president of Harvard College, Henry Dunster. This president was a man with an eye to the main chance, and he secured possession of the press by marrying the widow of the man who started from England with it, and he retained possession of it for many years. Some years afterwards, when the son of this widow had grown up, he brought suit for the recovery of the press. The president filed an account current in which he debited himself with an inventory of the press amounting to fourteen hundred and odd pounds sterling. He credited himself with his wife's board and several other incidental expenses, which looked very much as if he wanted to make as good an offset as possible. The difference between the two accounts amounted to about one hundred pounds, for which the president acknowledged himself as a debtor. The matter seems to have been taken out of the court and put into the hands of arbitrators, but there is no record of the president paying over to the heirs the amount adjudged against him. Some time after the receipt of the first press another was sent over by some society instituted for propagating the gospel among the Indians of this continent, and this press also fell into the hands of the president of the college, and the Indians are still unconverted. President Dunster also seemed to have great political influence, for he had a law passed that all the printing executed in the colonies should be done in Cambridge. There was also a law passed by the General Court appointing licensers of the press, and my impression is that the president was appointed on this board also, but of this fact I have not

been able to find sufficient corroboration. Stephen Daye was apparently an employee of the president. He was not a successful printer. He did not know how to spell or punctuate, or to do a great many things that printers are expected to do. He was soon after dismissed from the office. He then became a real-estate agent. Among other transactions he sold twenty-seven acres of land for a cow, a calf, and a three-year-old heifer. He also owned land in the outlying districts, mainly in Lancaster, Mass. In my judgment Mr. Daye was not in any sense the first printer. The first printer was Dunster. Although he did not set up type (it is not quite certain that Stephen Daye himself did), he was the controlling power of the press, and so far as a man who marries a printing press, and has control of it, can be called a printer, Dunster was that printer. After Mr. Daye left the press, which was very soon after new relations had been established, a man by the name of Greene, who came over with Winthrop, and was one of the boys of the town, became the manager of the press. He proved to be a very energetic man. He had charge of the press for forty years. He was elected captain of the militia of the town, and held that position for thirty years. After Greene died, for nearly seventy-five years, there was no printing press in Cambridge.

After the failure of the first press, a wonderful change took place in the colonies. While it existed, the press of Cambridge seemed to have a paralyzing influence on all enterprises of the kind. There were no newspapers and no other enterprises in the way of printing until after this press failed. It failed because it was a great monopoly. Immediately afterwards newspapers sprang up in Boston, Worcester, and other places, and soon after a press was established in Philadelphia and finally in New York. Franklin quarreled with his brother at Boston, and was driven to Philadelphia, and Bradford, on account of a quarrel with his brother Quakers, was driven to New York. So anxious were these people to find evidence against Bradford on account of his printing heretical matter in his newspaper, that they held up the form of type in order to see what was printed; but in doing this pied the type and destroyed the evidence against him. All these apparently little causes led to great results. The establishment of the newspaper led to the discussion of political questions, and those led eventually to the Revolutionary War.

This is from an informal address not intended for publication, but it is the only possible contribution from one whose chief interests were towards furthering the welfare of the city and the artistic improvement of the printing art.

Mr. John Wilson contributes the following interesting facts in regard to his father's important share in the improvement of American book-making: —

When the mechanical execution of the books of fifty years ago is compared with that of to-day, every one must admit the superiority of the latter. This improvement was the result of various causes, among which I may mention the part taken by my father. As a man and an artist John Wilson, Sr., was an Old World product, possessing the liberal tendency and breadth of view of the New World. He combined with thorough mechanical training an excellent artistic taste, and also an intellectual appreciation of a good book, both in its literary and technical construction, which is rare either among printers or publishers. Indeed, his literary instinct amounted to a passion, so that he soon became (all by his unaided efforts) a scholar as well as a mechanic; and as Elihu Burritt was called "the learned blacksmith," so John Wilson, Sr., might truly have been called "the learned printer," knowing not only his own art to perfection, but knowing also the Hebrew, Greek, Latin, French, and German languages; and being not only the maker of books for others, but the author himself of several. His "Treatise on Punctuation" is an acknowledged authority on the subject. Emigrating from England to the United States in 1846, he established himself in business in Boston, the firm name being John Wilson & Son. Even before his removal to Cambridge, his fame as a skillful and artistic printer was wide-reaching; and this, in connection with the intelligence and enterprise of others, — notably Welch and Bigelow, and the Hon. H. O. Houghton, — served to give an impetus to an art already well advanced, which seemed, especially from that time, to gain renewed vigor and to make more rapid strides than it had done for many generations in the making of beautiful books. This marked improvement in the art of printing in this country was doubtless due in great measure to the honorable competition of the three Cambridge houses, — the University Press, the Riverside Press, and the Wilson Press.

THE RIVERSIDE PRESS.

The publishing house of Houghton, Mifflin & Co. has its offices in Boston, New York, and Chicago, but its manufactory and shipping department are in Cambridge, and the manufacture of books, whether for the Boston house or for other publishers, is carried on at the establishment known as The Riverside Press. The estate on Blackstone Street comprises a tract of ground about four acres in extent. The buildings are separated from the public highway by a large open inclosure, and the Park system, when completed, will provide a wide roadway by the place. The river itself affords an important waterway, so that coal is brought in bulk and stored in capacious sheds on the bank. The original building, a three-story structure of brick, sixty feet by forty, may be distinguished from the pile in which it is

THE RIVERSIDE PRESS IN 1852.

THE RIVERSIDE PRESS IN 1896.

imbedded by its old-fashioned style, and its domestic dormer windows. It is connected with the fireproof warehouses that stand on the bank of the river and forms an extension of the main building, which has a frontage on the east of one hundred and seventy feet, and on the north nearly as great. In addition to this main building, the original structure, and the connected line of warehouses, there is a brick safe one story high for the storage of electrotype and stereotype plates, a capacious engine and boiler house, and a large building where the lithographic department is housed. This building is two hundred feet long by seventy-five in width for half its length, and forty-five feet in width for the remainder. It has a high basement, and one lofty story lighted with a monitor roof.

The distribution of material and apparatus and the organization of work in these several buildings is planned to secure the greatest safety to property, the least possible handling of books in their process of manufacture, and the best conditions of healthy work on the part of the large number of men, women, and boys employed in this industry. The separation of the group from other buildings and its free space give the establishment a large immunity from the danger of fire, and the concentration of power also lessens the danger and economizes the force. A Corliss engine of one hundred horse-power operates the entire machinery in all the buildings, — for the great detached lithographic building seventy-five feet away is connected by a tunnel with the main group. Steam is supplied by three upright boilers, each of one hundred horse-power. Two Knowles steam fire-pumps are always in readiness for use. All of the buildings are connected by automatic fire alarms, as also with the city fire department. The Grinnell automatic sprinkler is in place throughout, and a fire brigade, composed of sixty-five men employed at the Press, is kept in constant training. This department is under the charge of one of the firm, who not only makes repeated tests of the order of the apparatus but calls out the fire-brigade from time to time on false alarms. Thus the men are kept in practice. Electricity is used throughout in lighting the premises.

The founder of the business, which now employs some seven hundred persons, was the late Henry Oscar Houghton, at one time mayor of Cambridge, and a resident of the city for nearly fifty years, till his death in 1895. The office was first established in 1849 in Remington Street, but more room was soon needed, and Mr. Brown, of the publishing firm of Little, Brown & Co., bought the original premises on Blackstone Street, formerly used by Cambridge as a house for the town poor, and standing almost in the open country. Mr. Houghton and Mr. Brown were desirous of giving the new press a significant name, and tried various experiments till Mr. Brown said one day:

"This press stands by the side of the Charles River; why not call it The Riverside Press?" and this most natural name was then given it, so that now the term Riverside has come to cover a thickly populated district and to be applied to various neighboring industries.

THE UNIVERSITY PRESS.

The history of the University Press at Cambridge dates back to 1639, making it the oldest book-printing establishment in America. One of the earliest books issued by the Press while under the charge of Samuel Greene is still in existence, being cherished as a valued relic of the printer's art in the Massachusetts Historical Society. The volume is entitled "The General Laws and Liberties of the Massachusetts Colony," revised and reprinted by order of the General Court holden in Boston, May 15, 1672, according to the printed statement of Edward Rawson, secretary. The imprint shows that the book was printed in Cambridge by Samuel Greene, for John Usher of Boston, in 1672. The type on the title page is included within a double rule border. Its covers are of the sort that legal books of a century ago were generally inclosed within, and the frayed edges of the leaves are the color of sienna. The leaves are untrimmed. The book is about 13 by 7 by 1¼ inches, — a medium folio of its day. The typographical characters are peculiar when contrasted with the present art of type-casting, being poorly cut and liable to get out of alignment. That the Press had a considerable variety of fonts of type is apparent when one glances at this book of 1672. Mr. Greene had some strange ornamental cuts in his office, one of which embellished the first page of matter in the book. It shows two cherubs puffing their cheeks into trumpets at a grim skeleton just emerging from an open coffin.

Other notable books printed by the Press during its early years were the "Indian New Testament," in 1661, and the "Indian Bible," in 1663, the second edition of which was in press six years, and was issued in 1685.

Mr. Greene died in 1701, and after his death no printing was done in Cambridge until 1761, when the Press was reëstablished by the college, and was maintained by it or by private parties up to 1803, by which time it had gained firm foundation. The college catalogue bearing this date was undoubtedly printed at the University Press, and the catalogue of 1805 shows that William Hilliard was in charge of the printing at that time. In 1811 an edition of Dalzel's "Collectanea Graeca Majora" was printed by the Press. Its imprint shows that Eliab W. Metcalf had become associated with Mr. Hilliard at this time.

Two years later, Charles Folsom, a graduate of the class of 1813, and Librarian of the college from 1823 to 1826, became identified with

ATHENAEUM PRESS.

THE UNIVERSITY PRESS.

the Press, and his scholarship did much to increase the high reputation it had already gained for accuracy and elegance of workmanship. At this time nearly all the text-books used in the college were printed here. Mr. Folsom became known as the "Harvard Aldus," and during his proprietorship books were printed in Hebrew, Greek, Latin, French, Italian, German, and Spanish. Among other books issued at this time may be mentioned Sparks's edition of Washington's Writings, and his "American Biography," and Prescott's histories.

In 1842 the Press passed into the hands of Charles R. Metcalf, Omen S. Keith, and George Nichols, but within a year or two Mr. Keith retired, and Marshall T. Bigelow entered the firm. In 1859 the firm-name was changed to Welch, Bigelow & Co., and as such gained a still wider reputation for skilled book-making. In 1879 John Wilson and Charles E. Wentworth became the proprietors, and largely increased the capacity of the Press by adding to it the well-known establishment of John Wilson & Son.

During these years many remarkable books were produced. The productions of Holmes, Sparks, Prescott, Ticknor, Palfrey, Judge Story, Quincy, Everett, Hilliard, Dana, Longfellow, Hawthorne, Whittier, Emerson, Lowell, and many others, first issued from this press, gave evidence of its well-earned reputation for accuracy and scholarship.

In 1895 the Press was incorporated under the laws of Massachusetts, with John Wilson as president, and Henry White as treasurer. In order to give enlarged opportunities for executing work, the plant has just moved into a commodious brick building near its old location, facing the Charles River. The new plant is equipped with the most modern improvements, being the first in New England to introduce individual electric motors for power for each separate press or machine. This is but in keeping with its previous history, as the first Adams and the first Hoe stop-cylinder presses made in this country were used by the University Press. The process of electrotyping early superseded the old system of stereotyping at the University Press, and has here been brought to its highest state of perfection.

ATHENÆUM PRESS.

That certain portions of Cambridge offer exceptional advantages to manufacturers is clearly demonstrated by the recent action of Ginn & Co., the well known schoolbook publishers. After very careful examination of all available land in and about Boston, they finally decided that on the banks of the Charles River, within a radius of one mile from the State House, was the best possible location for their extensive publishing plant. Here they obtained land at a reasonable price with abundant light, so difficult to secure in the crowded city and so essen-

tial to the best quality of work. Near by are all the great freight stations, affording the best advantages for shipping in all directions. Lines of electric cars bring their employees from any part of Boston or suburbs almost to the door. The favorable location and the character of the building reduced the cost of insurance to the minimum.

The Athenæum Press, as the owners style their building, was designed by Messrs. Lockwood, Greene & Co., mill engineers of wide reputation, who have spared no pains to make this as nearly as possible a model building for manufacturing purposes. Practically fireproof, it is built on two sides of a square, with a frontage of two hundred feet on each street and a depth of seventy feet, with a power-house, in addition to the main building, in the rear. The structure is of brick five stories high, with brown-stone trimmings, the whole surmounted by a terra-cotta statue of Athena, made especially for this building by Siligardi, of Florence, Italy. Any one approaching the city by way of the West Boston Bridge is forcibly impressed with the noble proportions and substantial character of this building.

In designing and equipping the plant, not only has the closest attention been made to the requirements of manufacturing in the most economical manner, but the health and comfort of the employees have been constantly kept in view. Fresh air warmed over steam coils is forced through the building by means of an enormous fan, and the impure air is drawn out at the roof by smaller ones. The plumbing is of the best quality. The different departments are connected by telephone with each other, and by a private line with the office in Tremont Place, Boston. The fire-proof plate vaults and rooms for storage of books, together with complete fire equipment, make it almost impossible to suffer any serious loss by fire. The whole plant is lighted with eight hundred incandescent and thirty arc lights, fed by a current generated on the premises. The engine-room, with its tiled floor and well-polished fittings, is a model of its kind. The different departments occupy about three acres of floor space, and here may be seen the most improved machinery known to the printing and binding business. Type-setting machines, automatic folders, presses printing maps in two colors at once, — all demonstrate the wonderful ingenuity and mechanical skill of the present age. The output of this establishment is at present ten thousand books per day, and that number can be doubled in case of necessity.

There is a sort of poetic justice in the establishment of Ginn & Co.'s Press in Cambridge, for a large number of their publications are edited by Cambridge men. Their first book, "Craik's English of Shakespeare," edited by W. J. Rolfe, was published about the year 1867. Then followed the well-known series of Latin books by Allen and Greenough; the Greek Grammar, by Prof. W. W. Goodwin; Greek

Lessons, by Prof. J. W. White; the "Harvard Shakespeare," by Dr. Henry N. Hudson; the mathematical works of Prof. J. M. Peirce and Prof. W. E. Byerly, and many others.

Among the other books most widely known and most extensively used, of the eight hundred now published by the house, are the Wentworth Series of Mathematics, the National Music Course, by Luther Whiting Mason, Whitney's Essentials of English Grammar, Lockwood's Lessons in English, Collar and Daniell's Beginner's Latin Book, Young's Series of Astronomies, Blaisdell's Physiologies, Gage's Physics, the series of Classics for Children, Montgomery's, Myers's, and Allen's Histories, and Frye's Geographies.

It has been the aim of this house to make a careful study of the problems of education, and it has spared no pains to secure the best editorial talent possible. Its list now includes books by the leading educational men all over the country, and in almost every town in the United States some of their publications are used. The house has for many years been second to none in the educational value of its books, and in the short space of a little over a quarter of a century has grown to be the largest single schoolbook house in America. It has branch offices in New York, Chicago, Columbus, Atlanta, Dallas, and London, England. Over fifty traveling agents are employed in the work of introducing its books.

The following members compose the firm: —

Edwin Ginn, of Boston, the founder of the house; G. A. Plympton, of New York; Fred B. Ginn, of Oakland, Cal.; Justin H. Smith, of Boston; T. P. Ballard, of Chicago; Lewis Parkhurst, of Boston; S. S. White, of Boston; O. P. Conant, of New York; Ralph L. Hayes, of Philadelphia; T. W. Gilson, of Chicago; F. M. Ambrose, of New York; and H. H. Hilton, of Chicago.

THE CAMBRIDGEPORT DIARY COMPANY.

The publication of diaries is a long established and important industry in Cambridge, especially identified with the city by the fact that these useful little books are known to the trade the country over as "the Cambridgeport Diaries," though properly named the "Standard Diaries," and familiar to vast numbers of people in every State in the Union by this title.

In the fall of 1850 Edwin Dresser and Eben Denton, under the firm name of Edwin Dresser & Co., began the manufacture of diaries and memorandum books in two small rooms on Main Street, near Norfolk Street. The business increased, and soon a removal was necessary to larger quarters on Main Street, opposite Brookline Street.

Here for a time James Prince Richardson — well known as the captain of the first company of volunteers which left Massachusetts for

the defense of the Union in 1861 — was connected with the business. In 1857, Henry M. Chamberlain erected a building on Magazine Street of which the firm — then Denton & Wood — took entire possession on a long lease, afterward purchasing the building and adding to it from time to time as the demands of business warranted.

The use of diaries increased enormously during the war, the soldiers at the front and the families left behind being equally zealous to keep a record of those stirring events. Many of the employees enlisted in the army and did honorable service, while members of their families were furnished remunerative employment in the growing business.

In February, 1867, Eben Denton sold out his interest in the firm to Mr. Dresser, and the firm became Wood & Dresser; and in 1871, Mr. Dresser bought out the interest of Caleb Wood, and the firm name again became Edwin Dresser & Co.

In February, 1873, the business was incorporated under the general law of the State as the Cambridgeport Diary Company, other diary publishing houses being combined with the original and successful establishment.

The officers of the new corporation were: Edwin Dresser, president and general manager; George W. Parker, treasurer; J. Augustine Wade, superintendent; and under these officers — except that in 1877 Albert S. Parsons succeeded Mr. Parker as treasurer — the business has been run from that date to the present time, proving one of the most stable and reliable industries in the city.

The company employs a large force of skilled printers, bookbinders, and pocket-book makers of both sexes, most of whom have been brought up in the business from childhood, many having been with the founder of the industry, Edwin Dresser, from the start in 1850. Especial care has always been paid to the character of the employees, and the result is a body of self-respecting and permanent citizens, a credit to the company and to their city.

J. A. Wade, the superintendent, began as a boy in 1851, and has practical knowledge of every detail of the processes of manufacture. The Magazine Street building, quite isolated when built, and for many years a sort of landmark, is now surrounded by residences of elegance and comfort, and the company, feeling the locality unsuited for manufacturing purposes, and having outgrown the building, in January, 1889, bought twelve thousand square feet of land on the corner of Blackstone and Albro streets, in a section occupied by kindred industries, such as the Riverside Press, the Little & Brown Bindery, etc., erecting in that year a fine four-story brick building, containing twenty-five thousand square feet of floor space, and built on the most substantial and approved "mill-construction" methods, it being fireproof and admirably adapted to the needs of the business

from basement to roof. Into this new permanent home the company moved in February, 1890.

Here the best paper of the best mills of Western Massachusetts is received and transformed into diaries of varied sizes, styles, and qualities, bound into covers of cloth, or leathers of every grade, domestic and imported, the crude material turned out a well-finished product, creditable alike to the company, its employees, and the city in which the industry has been built up and developed.

In the pockets of rich and of poor in the cities, or of farmers in the fields, in counting-rooms, stores, and shops, in houses of luxury or in modest homes all over America, these Cambridge-made diaries are to be found, all bearing the title, "Standard Diary," and by their use, let us hope, encouraging methodical habits, thrift, and well-ordered lives.

In addition to these three large printing establishments just enumerated, there are several small job offices, where books and pamphlets are printed. Among these may be mentioned the following: —

The College Press,	F. L. Lamkin & Co.,
Cambridge Coöperative Society,	G. B. Lenfest,
J. Frank Facey,	Lombard & Caustic,
Graves & Henry,	Powell & Co.,
Harvard Printing Company,	C. H. Taylor & Co.,
Lewis J. Hewitt,	Louis F. Weston,
Jennings & Welch,	Edward W. Wheeler.

Some of these houses print the various magazines issued by the students of Harvard University; and all send out very good and acceptable work.

J. H. H. McNAMEE.

J. H. H. McNamee, bookbinder, began business in 1880, in the third story of the building now occupied by Claflin's drug store. His assistant at that time was one boy. In 1883 larger quarters were needed, and he removed to the building on the corner of Massachusetts Avenue and Linden Street. Business has since continued to increase, and he has removed to the large building which he has erected at No. 26 Brattle Street.

Mr. McNamee does a large business with public libraries, and his customers are scattered all over the country. He employs thirty-five people, and during the year 1895 forty thousand volumes passed through his hands. The class of work turned out varies from the leather bindings, used by colleges and public libraries, to the costly tool-finished volumes for collectors.

MUSICAL INSTRUMENTS.

THE MASON & HAMLIN CO.

In 1854 Henry Mason and Emmons Hamlin formed a partnership for the manufacture of melodeons, and in 1861 the American cabinet or parlor organ was introduced in its present form by that firm. The merits of the improved instrument were soon recognized, and the organs were sold in all parts of America.

The manufacture was commenced on Cambridge Street, Boston, in a small way, but business increased so rapidly that the buildings they occupied were found inadequate. In 1874 they removed to Cambridgeport and built the extensive factory on the corner of Broadway and Brewery Street, which they now occupy. The buildings cover thirty-five thousand square feet of land, and contain one hundred and fifty thousand square feet of working floor space. The first Mason & Hamlin organ was made in 1854 and the first piano in 1881. The capacity of the factory is ten thousand organs and fifteen hundred pianos annually. Nearly four hundred men are employed, and the pay-roll is about two hundred and fifty thousand dollars per year.

The Mason & Hamlin organs and pianos are sold in nearly all parts of the civilized world, but the largest single shipment for export made by this company was in December, 1892. Twenty-one teams, carrying one hundred and seventy-six organs, were loaded in one day and delivered at the Cunard Docks to be forwarded to Liverpool. The warerooms of the company are on Boylston Street, Boston.

SAMUEL S. HAMILL.

Cambridge is not far behind her sister cities in the art of church-organ building. Pipe organs have been built here since 1809. William M. Goodrich, of Templeton, Mass., began building church organs in Boston in 1799. Ten years later he moved his factory to the Third Ward, Cambridge, at the corner of Fifth and Otis streets. He continued the art till the time of his death, which occurred in 1833. He was succeeded by Stevens & Gaieti, at the same stand, and subsequently by George Stevens, once mayor of Cambridge. Mr. Stevens pursued the same business till 1891.

Mr. S. S. Hamill established himself in the art of church-organ building in 1859, on Gore Street near Fifth, where he remained till 1889. Finding his old factory too small for the increasing demand, he put up a new one on Bent Street, near Sixth, opposite the Boston Bridge Works, where he now is.

During his thirty-six years' business, he has built and put up over eight hundred church organs, by contract, which have been put in

churches in nearly every State in the Union from Maine to California, besides quite a number for Canada, New Brunswick, and Nova Scotia, also for the West Indies, among which may be mentioned the celebrated organ in the Cathedral of San Felipe at Havana, Cuba; also those in the churches of El Monseratte, and Chapel of the Convent of La Merced, of the same city, and some of the noted organs in the principal cities of the United States.

Mr. Hamill acquired the art in New York city in 1845, and is thoroughly experienced and skillful in the manufacture of these noble instruments.

IVERS & POND PIANO CO.

W. H. Ivers began business in Dedham, Mass., in 1876, and the present company was formed in September, 1880. The following year they moved to Cambridgeport, and occupied the building on Albany Street where W. H. C. Badger & Co. are now located. The same year they built a portion of their present factory on the corner of Main and Albany streets, one hundred feet long, fifty feet wide, and five stories high. In 1883 they added to this another section one hundred feet by fifty, six stories high, and in 1886 a final addition seventy feet by sixty, and at the same time raised the first factory another story.

When the company began business in Cambridge the output was from six to ten pianos each week, and about twenty men were employed, with an average pay-roll of fifteen thousand dollars per annum. The capacity of their factory at this time is from twenty-five hundred to three thousand pianos per annum. One hundred and seventy-five men are employed, and the annual-pay roll is about one hundred and twenty thousand dollars. The Boston warerooms were located on the ground floor of the Masonic Temple from 1886 to 1895. Since the Temple was burned they have occupied large rooms at 114 Boylston Street.

The Ivers & Pond Co. have been successful from the start, and they at this time own the factory and real estate which they occupy. On February 1, 1896, they reported an undivided surplus of three hundred thousand dollars.

The officers of the company are as follows: William H. Ivers, president; George A. Gibson, secretary and treasurer; Handel Pond, general manager; John B. Dayfoot, superintendent.

THE GEORGE W. SEAVERNS PIANO ACTION CO.

The business was established in 1851 by George W. Seaverns in a building on State Street known as Osborn's mill. Twice it was seriously interrupted by fire, once in 1855 and again in 1874. In the latter year Mr. Seaverns decided to seek larger quarters, and accord-

ingly leased a portion of the Greely mill, their present location. The business increased so rapidly that they were obliged to lease the adjoining buildings, where they now have an extensive plant.

In 1889 the business was incorporated under its present name, with a capital of fifty thousand dollars. The company consists of George W. Seaverns president, with Frank H. and Walter G. Seaverns as directors.

The Seaverns actions have been placed in more than two hundred and fifty thousand pianos, and are used by many of the leading piano manufacturers in the United States.

THE STANDARD ACTION CO.

David A. Barber, George Bates, and Willis Mabry began the manufacture of pianoforte actions under the above firm name January 1, 1889. In 1890 Horace T. Skelton was admitted an equal partner; the firm has remained unchanged since that date. The product of the house is sold all over the Union where pianos are made. The volume of business has increased rapidly, and there are at present one hundred employees on the pay list. The present capacity is seventy-five hundred actions per year. The factory is located on the Allen & Endicott Building Co.'s estate bordering on Main and Osborn streets. The facilities of the concern will be doubled during this present year.

DANIEL E. FRASIER.

In 1866 Daniel E. Frasier and Alpheus K. Smith formed a partnership and began the manufacture of pianoforte hammer covers. In 1885 Mr. Smith retired from the firm, and the business has since been conducted by Mr. Frasier.

The material used for hammer covers is imported from Leipzig, Germany; the goods manufactured are sold to the leading houses in both the East and the West.

GEORGE R. OLIVER.

Mr. Oliver began the manufacture of piano cases in Cambridgeport in 1888; his business has since increased rapidly, and he now employs about fifty men.

SYLVESTER TOWER.

The group of factory buildings 145 Broadway, Cambridgeport, is owned by Sylvester Tower, and the business conducted is the manufacture of piano keys and organs. A considerable number of men are employed.

C. A. COOK & CO.

are manufacturers of piano stools and taborets. Their factory is on Osborn Street, Cambridgeport.

MACHINERY AND BOILER MANUFACTURE.

EDWARD KENDALL & SONS.

Edward Kendall, the senior member of this firm, with John Davis, of Cambridge, originated the business in 1860, under the firm name of Kendall & Davis. This partnership continued for several years, when Mr. Davis withdrew, and soon after George B. Roberts, of Cambridge, became associated with Mr. Kendall, forming a partnership known as Kendall & Roberts, which continued for more than twenty years. The recognized superior quality of their work secured for the firm a prominent position among the leading concerns in their line in this country. This fact, together with the rapid development of manufacturing in New England after the war, caused their business to increase rapidly, and their shops were almost always running at full capacity, a fact which, on account of the comparatively crude methods employed in the manufacturing of boilers in those days, could not be kept quiet. It was remarked some years ago by a prominent clergyman of Cambridge, that the rattling of the windows in some newly purchased street-cars was almost as noisy as Kendall & Roberts's boiler works. They furnished steam plants for many of the largest manufacturing establishments in New England, and also sent their boilers to all parts of the country.

In 1887 Mr. Roberts retired from the firm, selling his interest in the business to Mr. Kendall, and since that date the business has been carried on by the present firm, the members of which are Mr. Edward Kendall and his sons, George F. and James H. They have reorganized their entire plant, erecting new and larger buildings, and replacing their old machines with new ones of the latest and most approved types. Their shops have a floor area of about forty-five thousand square feet, and their present capacity is more than twice what it was when they succeeded to the business.

The volume of their business has steadily increased, and, when running at full capacity, they employ about two hundred men, and their consumption of iron and steel last year amounted to about six thousand tons. Although there have been many extensive concerns in this kind of manufacturing organized in all parts of the country, Edward Kendall & Sons still occupy a position among the largest and most reliable.

They have given especial attention to boilers constructed for high pressures, such as are used for the largest mills, in connection with their compound and triple expansion engines. For this purpose they build horizontal tubular boilers, and also upright boilers, such as the "Manning" and other designs.

Notwithstanding the local competition in other parts of the country,

they still secure orders from industries of various kinds in all quarters, from the copper and iron mines of Lake Superior to the cotton, lumber, and sugar mills of the South and West. They have also sent their boilers across the Pacific to China, and across the Atlantic as far east as Constantinople, and also to South America.

BARBOUR, STOCKWELL CO.

The Barbour, Stockwell Co. is the result of the consolidation of the business of three separate firms.

The firm of Allen & Endicott was established about forty years ago by Caleb C. Allen and Henry Endicott. They were at first located in Boston on North Grove Street, where they built engines and boilers, and carried on a general machine-shop business.

In 1858 they purchased property on Main Street, at the corner of Osborn Street, in this city, which had been for some time owned and occupied by Davenport & Bridges, car builders. Their works were moved out from Boston, and they remained at this place until 1873, when they disposed of the business but retained their ownership in the real estate. The new firm was known as Morrill & Hooker, and consisted of Alfred Morrill and Henry Hooker, both of Cambridge.

In 1878 Mr. Allen purchased the interest of Mr. Hooker for his son, Albert F. Allen, and the firm became Morrill & Allen. On the death of Albert F. Allen, Mr. Morrill continued the business under the name of Alfred Morrill & Co., until 1890, when he retired from active business, and transferred the good-will, stock, tools, and fixtures to Barbour & Stockwell.

The Cambridge Railroad was built while the business was in the hands of Allen & Endicott, and they were called upon to furnish a large part of the track material used. The building of other roads rapidly followed, and the activity in this field added a permanent and important branch to their already large and successful business.

The old firm of Denio & Roberts was started in Boston about 1850, and for many years carried on business in different places at the West End. They were the first to build a machine for cutting crackers and biscuits, and for a long time their machines were the only ones on the market or in general use. A few of the machines built by them are still in use in small bakeries, but the greater part of them have long since been supplanted by those of modern construction. As the manufacturers of bakery products began to educate the public taste by supplying a better quality and a far greater variety of goods, their business increased very rapidly, and the old machines were not accurate enough, nor of sufficient capacity to meet the increased demand. This led to many improvements, and developed, by the usual

processes of evolution, machines that are little short of marvelous in these respects. Those not familiar with the methods practiced in a well-equipped modern bakery have but little idea of the extent to which machinery is used, or of the great changes that have been wrought by it in the baker's art since the days of our grandfathers. Then the skill of an operative lay in his ability to turn out a small quantity and a very limited variety of goods with his own hands, and such simple hand implements as are familiar to all good housewives. To-day there is little, and in most bakeries no hand work done, and the skill of a mechanic lies in his knowledge of the machines, and how to get from them the largest amount and the highest quality of goods they are capable of producing.

The business of Denio & Roberts changed hands several times, and competitors arose in the West and elsewhere, but each of the successive owners of the concern in Boston added something to the efficiency of the machinery built by it, — indeed, they were forced to do so, because in order to live they had to be progressive.

In 1886 it passed from the hands of W. O. Taylor Co. into those of Barbour & Stockwell, — Walworth O. Barbour, of Cambridge, and Frederic F. Stockwell, of Somerville, who continued the business at No. 11 Chardon Street, Boston.

The firm of Walworth O. Barbour & Co. was founded in 1882, and consisted of Mr. Barbour, Alfred Morrill, and Albert F. Allen, all of Cambridge. Previous to that time the Walworth Manufacturing Co. had occupied the greater part of the building owned by Allen & Endicott, but they had moved to the new works purchased by them at South Boston. Mr. Barbour had been in their employ for about eight years as clerk and paymaster. This office he resigned to take charge of the affairs of the new firm. The foundry just vacated by the Walworth Manufacturing Co. was leased of Messrs. Allen & Endicott, and a general jobbing business in gray iron castings was started.

On the death of Mr. Allen his interest passed into the hands of Mr. Morrill, and on Mr. Morrill's retirement he disposed of all his share in the foundry to Mr. John P. Winlock, who had for seven or eight years been foreman of the foundry.

In 1890 the foundry, the Allen & Endicott business in Cambridge, and the old Denio & Roberts business in Boston, were merged into one concern under the name of Barbour, Stockwell & Co. Contemplated improvements in the building of Messrs. Allen & Endicott, as well as the necessities for larger facilities for turning out work, forced the concern to seek new quarters.

A lot of land containing a little over two acres, and bounded by

Broadway, Market, Clark, Hampshire, and Davis streets was purchased, and buildings erected, as follows: —

A foundry 175 by 75 feet, a machine shop 52 feet wide and 300 feet long on the first floor, 150 feet on the second and third floors, and a wareroom and pattern storage building, 160 by 60 feet, three stories high. The new quarters were ready for occupancy by the spring of 1891. The machinery from the Boston shop, as well as that from the foundry and shop in Cambridge, was moved in and set up.

In 1893 the firm was incorporated under the laws of Massachusetts, under the name of Barbour, Stockwell Co.

Various causes have combined to bring about a rapid increase in the volume of business since the consolidation was effected. The increase in the last five years has been more than one hundred per cent., a large part of which is due to the impetus given to street railway building by the introduction of electricity as a motive power. With the new system heavier cars were brought into use, and the old track, which had been good enough for horse-car service, was found to be altogether too light for the heavier cars and increased speed of the new method.

It soon became necessary to replace all the tracks with heavier rail, and new and improved types of special work replaced the old as rapidly as they could be procured and laid. Nor was the demand for new material confined to the old roads. New enterprises in street railway building were inaugurated in every section of the country, and this soon became a favorite form of investment.

While this company furnishes but a small part of the great aggregate of the material used in this industry, and has to meet the competition of much larger concerns in the West, still it has a large and growing trade in this class of work.

In the foundry it has a capacity of thirty to forty tons of gray iron casting a day, and furnishes a large amount of cast iron work to the machinery and building trades of Boston and vicinity. In the machine department it designs and builds a great variety of special machinery, and does a general jobbing and repair business. The number of men employed varies with the season, from two to three hundred, and the pay-roll from two to three thousand dollars a week.

RAWSON & MORRISON MANUFACTURING CO.

The Rawson & Morrison Manufacturing Co. are designers, patentees, and manufacturers of hoisting-engines, coal-handling machinery, boilers, stationary engines, electric hoists, fertilizer dryers, hydraulic pumps and presses, special and general machinery.

It is a well-known fact that Boston was the birthplace of the portable hoisting-engine. As early as 1835 the necessity for handling

RAWSON & MORRISON MANUFACTURING COMPANY.

weights by other than manual labor forced itself upon contractors, pile-drivers, and bridge-builders. These industries early began to assume vast proportions, and it was to supply their demands that the first hoisting-engine was manufactured in this vicinity. Hittinger, Cook & Co., of Charlestown, were the first to design and manufacture this class of engines, and did a large business during the existence of the firm. From their shops was graduated George W. Rawson, a natural mechanic and inventor. He formed a partnership with Michael Hittinger (Hittinger, Cook & Co.), under the firm name of Rawson & Hittinger, and began business at No. 72 Main Street, Cambridgeport. They carried on a large business during and after the war, manufacturing annually about two hundred engines, ranging in price from six hundred to three thousand dollars each.

In the year 1884 Mr. Rawson and John G. Morrison established the firm of Rawson & Morrison, and located at No. 29 Main Street (West Boston Bridge). Owing to the many years spent by Mr. Rawson in manufacturing and improving the line they represented, they were enabled to bring their productions to a higher degree of perfection. Being protected by numerous letters-patent, they were in a position to offer to their customers original and improved engines and machinery, constructed to meet the varied requirements.

In the year 1883 they began a series of experiments with a view to securing a form of steam-shovel and apparatus adapted to the general discharging of vessels engaged in coal transportation. These experiments resulted favorably, and their method has been adopted by many of the leading coal merchants and railroads from Maine to California.

Mr. Rawson died October 17, 1893, and the business has since been continued by Mr. Morrison, without change of firm name. It has recently reached such proportions as to demand increased facilities, and a modern steel frame building, two stories, one hundred and fifty feet by sixty, has been erected. This addition is especially adapted for handling heavy work, and is fitted with electric cranes and the most modern machinery and tools. They at present employ one hundred and fifty mechanics.

The company was incorporated, May, 1896, with a paid-in capital of seventy-five thousand dollars.

BOSTON BRIDGE WORKS.

The Boston Bridge Works, located on Sixth, Ninth, Rogers, and Binney streets, was established by D. H. Andrews, the present proprietor, in June, 1876.

The business was begun on Main Street, in a building belonging to the then existing firm of Kendall & Roberts, at the spot where the office of Edward Kendall & Sons now stands.

Bridge-manufacturing in Boston or vicinity previous to that time had not been successful, and the modest beginning of the Boston Bridge Works gave ample opportunity to study and, so far as possible, avoid the causes of previous failure. The growth of the business was not at first rapid, but it was steady until, in the early spring of 1881, it had outgrown the accommodations afforded by the buildings and grounds first occupied. After a most exhaustive examination of the facilities afforded by other regions sufficiently near Boston, it was decided that no other spot combined so many advantages as are united at the present location.

The Boston Bridge Works produce steel or iron railroad and highway bridges, with fixed or movable spans for drawbridges of every description or requirement, — steel-roof trusses and coverings, steel building-frames and complete steel buildings, locomotive turn-tables, and all kinds of structural frames required.

The works cover about one hundred and forty thousand square feet of ground, and are completely equipped with modern machinery for a bridge-building plant. Last year they turned out and shipped about eight thousand tons of finished material.

Among the notable bridges built by the Boston Bridge Works in this vicinity may be mentioned the Harvard Bridge, from Cambridge to Boston, and the Dover Street Bridge and Boylston Street Bridge, in Boston. These works also produced the majority of the largest railroad bridges in New England, and have furnished the steel framework of several large and notable buildings, among which may be named the new Worthington building on State Street, and the new Tremont building in Boston. The number of men usually employed by the Boston Bridge Works is not far from three hundred, but at times has reached over four hundred.

The foregoing will give a fair idea of the general output and character of this distinctively Cambridge enterprise, and it shows that it is quite possible to produce steel structural work on a fairly extensive scale in New England, despite the large advantage generally conceded to Pennsylvania in this class of business.

BROADWAY IRON FOUNDRY CO.

The Broadway Iron Foundry Co. was established in 1864 by Henry M. Bird, under the firm name of Henry M. Bird & Co., and moved to its present location, Broadway and Pelham streets, Cambridgeport, in 1866. Mr. Bird died in 1890, and the business was continued by his estate to January 1, 1896, when it was incorporated under its present name. The capital of the company is twenty thousand dollars, and they do a general foundry business, leasing the land and buildings from the Bird estate. About forty men are employed.

William W. Bird is president and treasurer, and Robert C. Bird secretary.

MORSS & WHYTE.

The firm of Morss & Whyte occupies a large brick building covering thirty-five thousand square feet of land on Franklin Street, Cambridgeport. The business was established in 1840. Charles A. Morss was admitted to the firm in 1845, and since 1868 has been the sole partner. The concern was removed to Cambridge in 1885. They manufacture wire cloths, netting, screens, railings, and light structural iron work, and employ fifty hands.

THE SIMPLEX ELECTRICAL CO.

was incorporated under the laws of Massachusetts in 1895, with a capital of one hundred and fifty thousand dollars. It is at present located with Morss & Whyte, and employs seventy-five men. The company manufactures insulated wires and cables for electrical purposes, including line work, interior wiring, submarine and underground cables, and is doing a very large business.

THE EASTERN EXPANDED METAL CO.,

incorporated in 1894, with a capital stock of fifteen thousand dollars, is located at 10 Franklin Street, Cambridgeport. The company is licensee in New England for the patents on expanded metal, and is manufacturer of expanded metal lath, and contractor for fire-proofing on the expanded metal system, including lathing, partitions, protections of iron beams, elevator shafts, floors, and outside walls. Thirty men are employed.

THE AMERICAN ELECTRIC HEATING CORPORATION

is also located at 10 Franklin Street, with main office in the Sears Building, Boston, and branch offices in New York and Chicago. The corporation has a very heavy capital, and is controlled by a syndicate of Boston's prominent business men. The company owns two hundred and fifty patents on electric heating, and is developing its application, working on the basis that the field is as great for electric heating as for electric lighting. Employment is at present given to twenty men.

HALL BROTHERS.

The firm of Hall Brothers, machinists, No. 724 Massachusetts Avenue, was established in business in 1890, with a capital of two thousand dollars, for the purpose of manufacturing Hall's Matrix Drying Machine, and special machinery for newspaper stereotype offices. During the past five years they have placed machines in many of the large newspaper offices, including those of the "New York Sun," "New

York Evening Post," "Boston Herald," "Buffalo Evening News," "Chicago Herald," "Philadelphia Record," "Providence Journal." They also manufacture lubricant for motors and dynamos.

RIVERSIDE BOILER WORKS.

The Riverside Boiler Works, Cambridgeport, occupy three buildings at 50 Harvard Street. The business was established in 1891, and the company is engaged in the manufacture of galvanized iron range boilers. The works have a capacity of fifty boilers per day, and twenty men are employed.

STANDARD BRASS CO.

The Standard Brass Co. was organized and incorporated May, 1894, with a capital of fifteen thousand dollars. The factory is located at Nos. 12–14 Osborn Street, Cambridgeport, and one hundred hands are employed in the manufacture of brass work, for water, steam, and gas, also for electrical lamp work. The value of the product is about one hundred thousand dollars per annum. Thirty thousand pounds of brass are melted in the foundry each month. F. J. Paine is president, and H. F. Hawkes treasurer of the company.

BAY STATE METAL WORKS.

The Bay State Metal Works was incorporated in May, 1893. The company manufacture copper and brass goods for plumbers' use. The capital of the concern is about thirty-five thousand dollars, and employment is given to seventy-five men. The value of the product is two hundred thousand dollars per annum. The officers are: Andrew W. Fisher, president; Joseph J. Devereux, treasurer; F. H. Holton, general manager. The works are located on Harvard Street, Cambridgeport.

LAMB & RITCHIE.

Making galvanized iron pipe was a slow process twenty-five years ago, and the product was unsatisfactory. When the seam was made the zinc coating cracked or broke off and exposed the iron or steel to rust; and for the same reason the short pieces could not be successfully soldered together to make pipe of suitable length. The pipe at best was unsightly, and it was a good workman who could make more than two hundred and fifty feet a day.

The first successful steps in the industry were not attempts to make pipe cheaper, but to make it better. The two objects were, however, closely allied, and it was not until power machinery was first successfully applied to making the different kinds of improved pipe by Lamb & Ritchie, of Cambridgeport, that the manufacture began its remarkable growth.

Like many other modern inventions, there is but little for the opera-

LAMB & RITCHIE.
LAMB & RITCHIE.

HENDERSON BROS
HENDERSON BROS. CARRIAGE, WAGON AND BARGE REPOSITORY.

tor to do; "he presses the button and the machine does the rest." A plain flat sheet of metal is fed into the rolls, and comes out in a few seconds a complete pipe ten feet long, sometimes round, sometimes square or oval, smooth or fluted, sometimes corrugated, so that it will expand when water freezes in it; and, most wonderful of all, some of the machines produce a pipe ornamented and strengthened by a spiral seam. All the galvanizing or zinc coating is done after the pipe is made, which is the only way to make galvanized iron pipe reliable.

As to rapidity of production, a machine will run out more pipe in a day than some workmen could make by hand in a whole winter. A brief account of a trifling accident may illustrate the productive capacity of modern sheet metal machinery. A machine not properly stopped at noon broke loose when the engine started up, running out pipe across the room in which it stood and back again as it was turned by the opposite wall. Before it was discovered it had nearly filled the room with pipe. That was twelve years ago. If the pipe had gone due west out of an open window and the machine had continued to run, the line of pipe would have reached by this time twice around the world. Some of the firm's machines would in the same time have run pipe three and even four times around it.

It may be asked how a market can be found for such an increased production. The answer is, first, that it takes millions of feet each year to supply the thousands of tinsmiths who formerly made pipe themselves, but who have found that it is now cheaper to buy it ready made; and, second, that the improved quality and reduced price of the machine-made product led, as in other industries, to an extraordinary increase in its use.

This Cambridgeport firm was the pioneer in the industry. It still holds the lead in it, in spite of sharp competition and heavy tariff taxation both in 1890 and 1894. Cambridgeport is an admirable location for an industry which uses imported materials. The ocean steamers and the railroads running from the wharves bring these materials from the producer in Great Britain to the factory in Cambridgeport for a very few cents a hundred pounds. It is in connection with cheap materials that invention and enterprise count for the most and secure the greatest advantage. Unless prevented from buying where their materials are cheapest, sheet metal industries will continue to find an exceptionally good home in Cambridge. The partners in the firm are Henry W. Lamb and David A. Ritchie, and the factory is located on the corner of Albany and Portland streets.

THE GEO. F. BLAKE MANUFACTURING CO.

This vast enterprise owes its success to the inventive genius, business energy, and sterling integrity of its founder, George Fordyce Blake, a descendant of the stanch old New England family of this name.

In 1862 Mr. Blake, while employed as mechanical engineer of Peter Hubbell's brick-yards at Cambridge, was granted a patent for a water meter. About that time Mr. Blake also patented a machine for pulverizing the clay, which could not be worked with the ordinary machinery; and, later, when the clay pits constantly filled with water, he devised and patented a steam pump, which operated perfectly, and succeeded in keeping the pits free from water.

In 1864 Mr. Blake, associated with Mr. Hubbell and Mr. Job A. Turner, commenced the manufacture and sale of these pumps and meters in a little shop on Province Street, Boston. From that time to the present the growth and success of this industry have been uninterrupted. In 1874 a joint stock company was formed, under the name of the "Geo. F. Blake Manufacturing Co.;" in 1879 the plant and business of the Knowles Steam Pump Works, at Warren, Mass., were purchased; and, in 1890, the entire business was transferred to a syndicate, which, under greatly increased capitalization, now continues this business in the name of "The Geo. F. Blake Manufacturing Co."

In 1889–90, after several changes of location, incident to the ever-growing business, the works were permanently located in Cambridge. The plant, which covers five and a half acres, is undoubtedly one of the finest in its line in the world. The buildings were specially designed for the business, and are in the very best style of modern shop construction. As much attention has been given to the health and comfort of its employees as to the economy of production and the ease of future extension.

The buildings are fully equipped with traveling cranes and special tools, so as to insure the manufacture of strictly first-class machinery at the lowest possible cost. The variety of pumping machinery manufactured is greater than that of any other single company, a force of ninety-six draughtsmen and pattern-makers alone being constantly employed in the scientific designing and preparation of new lines of machinery for every branch of manufacturing and engineering work. The total number of employees at the present time is about one thousand.

The pumping machinery is shipped in quantity to every quarter of the globe, and ranges in size from pumps of a few hundred pounds weight to the highest grade of water-works pumping engines weighing over one million pounds each. Among the prominent American cities using the Blake water-works engines may be mentioned: Boston, New York, Washington, Camden, New Orleans, Cleveland, Mobile, Toronto, Shreveport, Helena, Birmingham, Racine, La Crosse, McKeesport, etc. A partial list of places in Massachusetts includes: Cambridge, Newton, Brookline, Woburn, Natick, Hyde Park, Dedham, Needham, Wakefield, Malden, Arlington, Belmont, Walpole, Lexington,

Gloucester, Marlboro, Weymouth, North Adams, Maynard, Mansfield, Randolph, Foxboro, Cohasset, Lenox, Chelsea, Brockton, Franklin, Provincetown, Canton, Stoughton, Braintree, and Wellesley. These engines are also in use in foreign water-works, as for instance at St. Petersburg, Honolulu, and Sydney.

The new United States Navy is practically fitted out with Blake pumps, a partial list including the following vessels: Columbia, New York, Iowa, Brooklyn, Philadelphia, Newark, Chicago, Boston, Atlanta, Massachusetts, Indiana, Maine, Puritan, Miantonomoh, Monadnock, Terror, Amphitrite, Katahdin, Detroit, Montgomery, Marblehead, Yorktown, Dolphin, Machias, Castine, Petrel, Vesuvius, and many others.

Briefly, the thousands of patterns cover pumps for handling any fluid or semi-fluid or liquor, whether acid or alkali, under all conditions, from the lightest pressure up to twenty-five thousand pounds per square inch; and similarly any gas or vapor under vacuum or various degrees of compression, — all these machines being driven directly by steam, air, or water pressure, or indirectly by steam or gas engines, electric motors, water wheels, or other sources of motive power.

WILLIAM CAMPBELL & CO.

are manufacturers of marine, locomotive, and steam fire-engine boilers, gas holders, oil and water tanks, and all kinds of plate iron works. Their works are located on Sixth Street near Broadway.

THE ROBERTS IRON WORKS CO.,

manufacturers of boilers, has a large establishment on Main Street near the West Boston Bridge, and employs a considerable number of men. Mr. Roberts was for many years a member of the firm of Kendall & Roberts.

MILLER & SHAW,

manufacturers of portable steam hoisting-engines, hydraulic presses, and general machinery, are located on Sixth Street, Cambridgeport.

WALTER W. FIELD,

machinist, formerly of the firm of Parker, Field & Mitchell, is a manufacturer of electric hoists and the Boston Hoisting-Engine, and is located on Main Street, West Boston Bridge.

JAMES H. ROBERTS & CO.

are manufacturers of machinery, shafting, pulleys, and hangers, and occupy a large building on the corner of Second and Charles streets, East Cambridge. Their business office is 5 Lancaster Street, Boston.

E. D. LEAVITT.

The largest private mechanical engineering office in the United States is that of E. D. Leavitt, which occupies two floors in the Holmes Block, 2 Central Square. A large force of engineers and draughtsmen is constantly employed.

Machinery and boilers (with their accessories) exceeding in value more than ten million dollars have been designed by Mr. Leavitt since establishing his office in Cambridge.

The designs mentioned include the great machinery plant of the Calumet & Hecla Mine, pumping-engines at Boston, Lynn, Lawrence, Louisville, Ky., and that now building for Cambridge, as well as the most powerful pumping-engine in existence, which is used by the Bethlehem Iron Company in forging armor plates and heavy guns, which develops 15,000 horse-power. Cambridge manufacturers have built some of the most important work. The pay-roll exceeds forty thousand dollars per annum.

MANUFACTURING CONFECTIONERS.

The manufacture of candy in Cambridge was begun by Robert Douglass in 1826, in a small building on Windsor Street. He removed soon after to the building now standing on the corner of Main and Douglass streets. Beginning with sales from a wheelbarrow, grinding and refining all the sugar he used, his business increased to such an extent that he acquired a fortune. At one time he had teams running over a large portion of New England.

From this concern sprang the oldest candy manufacturing firm now doing business in Cambridge at this time,

B. P. CLARK & CO.

Mr. Clark was a salesman for Douglass from 1840 to 1848; in the latter year he started in business for himself on Franklin Street, Cambridgeport. In 1862 he moved to Main Street, and occupied a building which stood on the site of the present Prospect House Block. In 1874 he built the factory, 443 Massachusetts Avenue, which has been occupied by the firm since. The building is seventy-five by fifty feet, five stories high. The capital used in the business is from seventy-five to one hundred thousand dollars, and about fifty hands are employed. The partners are B. P. Clark, Edward C. Wheeler, and W. F. Alley. After forty-eight years of service, Mr. Clark, at the age of eighty, still takes an active interest in the business.

D. M. Hazen & Sons.

George Close, Confectioner.

GEORGE CLOSE,

manufacturer of confectionery, began business in Cambridgeport in 1870, and in 1879 erected the brick building on the corner of Broadway and Windsor Street, where he employs one hundred and twenty-five hands. The product of the factory is about three tons per day, which is distributed mostly in New England. The plant has all the latest improvements in machinery used in the business, and represents a capital invested of about seventy-five thousand dollars. The building is sixty-five by seventy-five feet, with a wooden addition thirty-five by forty feet. On the first floor are the offices, receiving and shipping rooms, and the three floors above are used for manufacturing. The engine-room is located in the wing.

D. M. HAZEN & CO.,

manufacturers of confectionery, began business in 1876. In 1882 they purchased fifty-six hundred feet of land, and a two-story building, located at 42 Elm Street, to which they added an ell. In 1885 the business had increased, and the building was further enlarged. In 1890 more land was purchased, and the building increased to eighty by forty-four feet, three stories high. The plant was furnished with the latest improved machinery; the concern now employs from seventy-five to one hundred hands, and makes a specialty of chocolates, bonbons, and caramels.

H. F. SPARROW,

manufacturer of fine chocolates, bonbons, and caramels, began business in 1887, in a two-story building on Windsor Street; the growth of the business compelled larger quarters, and in 1891 the present factory, on the corner of Hampshire and Clark streets, was erected. The building measures one hundred and ten by forty-five feet, and has four stories and basement. By close attention to business a large trade over the United States has been secured; in the busy season one hundred and seventy-five hands are employed.

THE BAY STATE CONFECTIONERY CO.

are the successors of J. S. Bell & Co., who first engaged in manufacturing confectionery in a small building on Pearl Street, in May, 1890, moving into their present quarters, 141 Hampshire Street, in September, 1891. The present company purchased their plant in June, 1894, and employ about sixty hands. The building is seventy by forty feet, of four stories, all of which are fully occupied. Their product is chiefly chocolate confections, and is valued at one hundred thousand dollars per annum.

The total capital represented in the manufacturing confectionery

trade in Cambridge is about two hundred and thirty thousand dollars; average number of employees, four hundred and sixty-five. Sixty million pounds of sugar and eight hundred thousand pounds of chocolate are used annually. The Cambridge manufacturers are members of the National Confectioners' Association, an association not organized to fix prices, but whose motto is "purity and integrity."

R. H. LEACH, Elm Street, manufacturer of lozenges, employs a considerable number of people.

JENSEN BROTHERS, Norfolk Street, manufacture a general line of confectionery.

SOAP MANUFACTURERS.

Cambridge is at this time, and has been for many years, more extensively engaged in the manufacture of soap than any other place in New England. In the early days a large amount of this commodity was exported, chiefly to the West Indies and South America; but at the present time the manufacture is mainly confined to the home market. The business of soap-making in Cambridge was begun by Livermore, Crane & Whitney in 1804. Their business was started in a small way in a building in the rear of Main Street, and was continued by Mr. Livermore on the same spot until he died, in 1862. There are at the present time several large factories, producing in the aggregate many million pounds per annum.

CURTIS DAVIS & CO.

The establishment of the firm of Curtis Davis & Co. dates back to the year 1835, Mr. Curtis Davis being its founder. In the year 1838 Mr. Davis entered into partnership with Mr. Alexander Dickinson, under the firm name of Davis & Dickinson, with a capital of one thousand dollars. This partnership continued until 1851, and was dissolved in that year, Mr. Davis purchasing the site which is now occupied by the present firm.

In 1864 Mr. Davis received his son-in-law James Mellen into partnership, under the firm name of Curtis Davis & Co. At this time the works had a capacity of about three tons of soap per day, and employed ten hands, with a weekly pay-roll of about one hundred dollars. Improved methods of manufacture were adopted and improved machinery was installed whenever brought to the attention of the proprietors. The quality of their products was improved as the state of the art advanced, and as the market furnished purer raw materials from which to make them. The popular and well-known brand of "Welcome" soap was established about 1875, but had been registered and copyrighted in 1874. In 1883 the firm adopted the policy of manufacturing this and a few other special brands of laundry soaps, less than half a dozen in number, to the exclusion of all others. Just

CURTIS DAVIS & COMPANY.

previous to this time they were putting up for the market more than one hundred and twenty-five different brands. They believe themselves to have been the first firm in the soap business in this country to adopt such a policy, which has proved to be a sound one, as it is largely followed by all the leading manufacturers of to-day.

The partnership was terminated in 1887 by the death of Mr. Davis. The business was continued under the old firm name, Mr. Mellen taking into partnership his son, Edwin D. Mellen, who had previously been engaged at the works as chemist and superintendent. The works have been extended in late years by the addition of a glycerine plant, for the recovery of what had previously been a waste product, and the addition of a machinery department, for the manufacture of machinery designed at the works and patented by the firm. This partnership was recently terminated by the death of Mr. James Mellen, and the business is continued at the present time under the management of the surviving partner, Mr. E. D. Mellen.

The works now comprise the soap works in the old original building, greatly enlarged; the glycerine works, the boiler-house, with boilers equipped with coal and ash-handling machinery, and other modern improvements; the laboratory building containing the laboratories; machine-shop, and stable. All these buildings have a floor area of about two acres. The present capacity of the soap works is twenty tons per day, and that of the glycerine works three thousand pounds per day. The operation of the works employs a capital of three hundred and fifty thousand dollars, and eighty employees, with a weekly pay-roll of one thousand dollars. The annual product is valued at six hundred thousand dollars.

The firm contemplates increasing the capacity of its establishment in the near future, thereby giving opportunities for the employment of additional capital and labor.

JAMES C. DAVIS & SON.

In the year 1835 the late James C. Davis made his first venture in the soap business in this city, gathering the material from house to house, which was a custom followed by every soap-maker at that time.

In 1840, by dint of zeal and earnest effort, he opened a factory of some pretensions, and in 1850 he was the sole proprietor of the establishment at 204, 206, and 208 Broadway, where for forty-six years, or up to date, the name of James C. Davis, or James C. Davis & Son, the latter appendage being added in 1870 by the admittance of Mr. James H. Davis as a member of the concern, has appeared on the now familiar sign.

On March 14, 1888, the founder of the business, Mr. James C. Davis, died, since which time it has been carried on by his successors. They employ sixty-five hands.

Never has this house known disaster, save the burning of the factory in 1891 and the death of the founder. The spirit of progress has ever marked its endeavor, not only locally, but at large in New England. Every city and town in New England is familiar with the famous "James C. Davis Old Soap," also the E. A. & W. Winchester Standard Soap, which are manufactured by this house by the same formula as that used by the old concern of E. A. & W. Winchester, when they established the business in 1814.

In 1894 they added to their present capacity a glycerine plant, which converts all the glycerine from the spent lyes or waste products. The Boston office is at 3 Commercial Street.

LYSANDER KEMP & SONS,

Broadway and Davis Street, Cambridgeport, manufacturers of soap and soap-stock, was established by Lysander Kemp, at Lincoln Court, in the town of Cambridge, in 1845, and in 1853 was removed to its present location. In 1857 Mr. Kemp formed a partnership with Aaron Hale, under the firm name of Hale & Kemp, for the purpose of manufacturing family soap and soap-stock. In 1867 the firm was dissolved, Mr. Kemp retaining the soap-stock trade. In 1872 his sons, Horace G. and James H. Kemp, were admitted as partners. Lysander Kemp retired from the business January 1, 1892, and his sons continued it under its present firm name. In January, 1893, their building was destroyed by fire, but was immediately replaced by the present factory, which is 100 by 63 feet, and three stories high, with power-house adjoining. The firm employs fourteen men. Their product in 1895 was 1,259 tons of soap-stock, 458 tons of soap, and 705 tons of fertilizer stock.

JOHN REARDON & SONS.

The soap and candle business of John Reardon & Sons was founded by John Reardon in 1856, the factory being located on Erie Street, Cambridgeport. Candle manufacturing at that time was a very important industry in New England, and it continued to be such until the discovery of mineral oil. In 1863 Edmund and James H. Reardon were admitted as partners, and the firm has since continued under the name of John Reardon & Sons. The firm is a large exporter of tallow to England and the Continent, and has an extensive trade in the Southern States east of the Mississippi, in addition to its trade in New York, Pennsylvania, and New England.

It was at one time extensively engaged in the manufacture of oleomargarine oil and butter. The present works, covering an acre of ground near Fort Washington, were erected in 1878. The business of making oleomargarine was carried on until, under the laws of the State,

JOHN REARDON & SONS' SOAP FACTORY.

its manufacture was prohibited. The manufacture of oleomargarine oil, however, is still a large trade in the business of the firm, and the product is sold for export to Great Britain, Holland, Belgium, and Germany.

Within a few years a glycerine plant has been added to the works, by which the glycerine from the waste lyes is recovered. During the past year 12,100,000 pounds of raw material were used, producing 10,250,000 pounds of manufactured goods. From 90 to 110 persons are constantly employed, and the annual pay-roll is $53,000. At present the firm makes laundry and toilet soaps, tallow, oleomargarine oil, stearine, glycerine, sal soda, ground bone, and a high grade of fertilizer. John Reardon, the founder of the business, died in 1883, at the age of eighty-three years. James H. Reardon died in 1887. The business at the present time is carried on by Edmund Reardon.

C. L. JONES & CO.,

soap makers, 172 Pearl Street, Cambridge. — Business in this place was started about 1828 by Charles Valentine, and was originally confined to slaughtering cattle and packing beef. The manufacture of soap was added in order to work up the tallow which did not readily find a market, the soap being sold principally for export to the West Indies and South America. The history of the business from 1828 to 1845 is involved in obscurity, but the soap business was only a side issue, and was probably carried on in a very crude way. In 1845 Mr. Valentine made an arrangement with Charles L. Jones, who was then operating a small factory in Boston, to take charge of his soap business, and the firm of C. L. Jones & Co. was established, Mr. Valentine still carrying on the beef-packing business under the name of C. Valentine & Co. In 1850, on the death of Mr. Valentine, the packing business was given up, and Mr. C. L. Jones then took entire charge of the soap business, associating with himself two of his brothers.

The business at that time had grown to quite large proportions. Besides the manufacture of soap for export, a large business was done with the woolen mills, and in 1854 the manufacture of candles was added. Business kept on increasing, and the buildings were enlarged from time to time.

In 1879 Charles L. Jones died, and the business from that time to this has been carried on by Henry E. Jones and Frank H. Jones.

In 1881 the demand for candles had dwindled to small proportions, and that branch of the business was given up. About 1886 the factory was remodeled, and now, if worked to its full capacity, could turn out over ten million pounds a year. The export business, which was formerly the principal output, is now a very small item. The only way the export orders could have been retained would have been to move

the business to New York city, and the firm preferred to confine its operations to a domestic market. The product of the factory is now sold principally in New England and New York State.

The utmost care is taken in the manufacture of the various brands of soap turned out by the factory, and it is the aim of the owners to make nothing but the best of its kind. The buildings consist of one wooden one, two hundred by sixty feet, two stories high; one of brick for storage, one hundred by forty feet; and a one-story building for the engine and boilers. The pay-roll averages about twenty thousand dollars per annum. The firm has an office in Boston, at 224 State Street, and employs four traveling salesmen to dispose of its product.

Other soap manufacturers are Charles R. Teele, Lincoln Place, and Carr Brothers, Lopez Street.

CARRIAGE MANUFACTURE.

HENDERSON BROTHERS.

Cambridge for many years has been more or less noted for its industry of carriage building. The most extensive carriage business in the city is that of Henderson Brothers, No. 2067 Massachusetts Avenue, North Cambridge. The brothers, John J. and Robert, began business in Cambridge in 1856, and were the pioneers in the establishment of a carriage repository outside of Boston. Four years ago their factory was completely swept away by fire, but they have since rebuilt, and have now the largest carriage repository in the United States. The main building is of brick, two hundred and fifty feet by eighty-five, and five stories high. In the rear of the repository are three factories, one two hundred and twelve by fifty feet, and two others which, combined, have an equal area.

The firm manufacture brakes, drags, barges, wagons, mail, depot, hotel, and passenger carriages. In their repository they have wagons of all kinds, barges, caravans, hacks, landaus, coupés, and light carriages; also sleighs and pungs.

FRANCIS IVERS & SON.

The business of F. Ivers & Son was started by the elder Ivers in 1858 or 1859. Their factory is located on the corner of Allen Street and Massachusetts Avenue, about one mile from Harvard Square. The buildings are well adapted for their purpose, and cover an area of 20,700 feet.

The firm make a specialty of the "Ivers" buggy and light road wagons. Their business extends over the United States, and they have a large export trade.

Ivers & Son were the first to apply the bicycle wheel to the racing sulky, and they are now agents for Western houses who make that style of vehicle.

HUGH STEWART & CO.

In 1878 Mr. Stewart began the manufacture of carriages in Boston, but business increased so rapidly that he was soon compelled to seek larger quarters. He removed his plant to Cambridgeport, and in 1891 erected the factory now occupied by the firm, on Main Street, at the junction of Harvard and Sixth streets. The same year he admitted as partner his former bookkeeper, J. F. Cutter. The firm do an extensive business in the manufacture of carriages, and have a large repair-shop connected with the factory.

THE NELSON CARRIAGE CO.

The Nelson Carriage Co. was established by its present proprietor, Joseph L. Nelson, in 1891. The factory is located at Nos. 10 to 16 Palmer Street, and the salesroom is in Roberts Building, Harvard Square. The company manufacture a general line of carriages and wagons, and employ ten to fifteen men; they also deal in harnesses, horse clothing, and bicycles.

ANDREW J. JONES.

In 1846 Mr. Jones began the business of carriage building in Cambridge, and now occupies a brick building on the corner of Church and Palmer streets, where he manufactures heavy wagons and employs several men. The upper floor of his factory is used for a furniture storage warehouse.

CHARLES WAUGH & CO.

The business of Charles Waugh & Co., Nos. 442 to 450 Main Street, Cambridgeport, was begun in 1873, under the name of Waugh Brothers. The present company was formed in 1884, and they do a large business as builders of sleighs, police patrol wagons, carriages, light wagons, heavy caravans, and drags. The firm also handle horse clothing and stable equipments. A considerable number of men are employed.

CHAPMAN CARRIAGE CO.

In 1829 Francis L. Chapman began the business of carriage building, and continued the same until the time of his death in 1893. His successors are George O. Rollins and George M. Church, and they carry on the business under the name of the Chapman Carriage Co. Their specialty is the "Chapman," "Goddard," and "Stanhope" buggies, but they make to order carriages of all descriptions. The Com-

pany is located at No. 10 Brattle Street, and has large repair-shops and storage-rooms for carriages.

The other carriage manufacturers in Cambridge are: Stewart Brothers, George R. Henderson, Cambridge Carriage Co., J. A. Henderson & Son, H. F. Fletcher & Co.

FURNITURE MANUFACTURE.

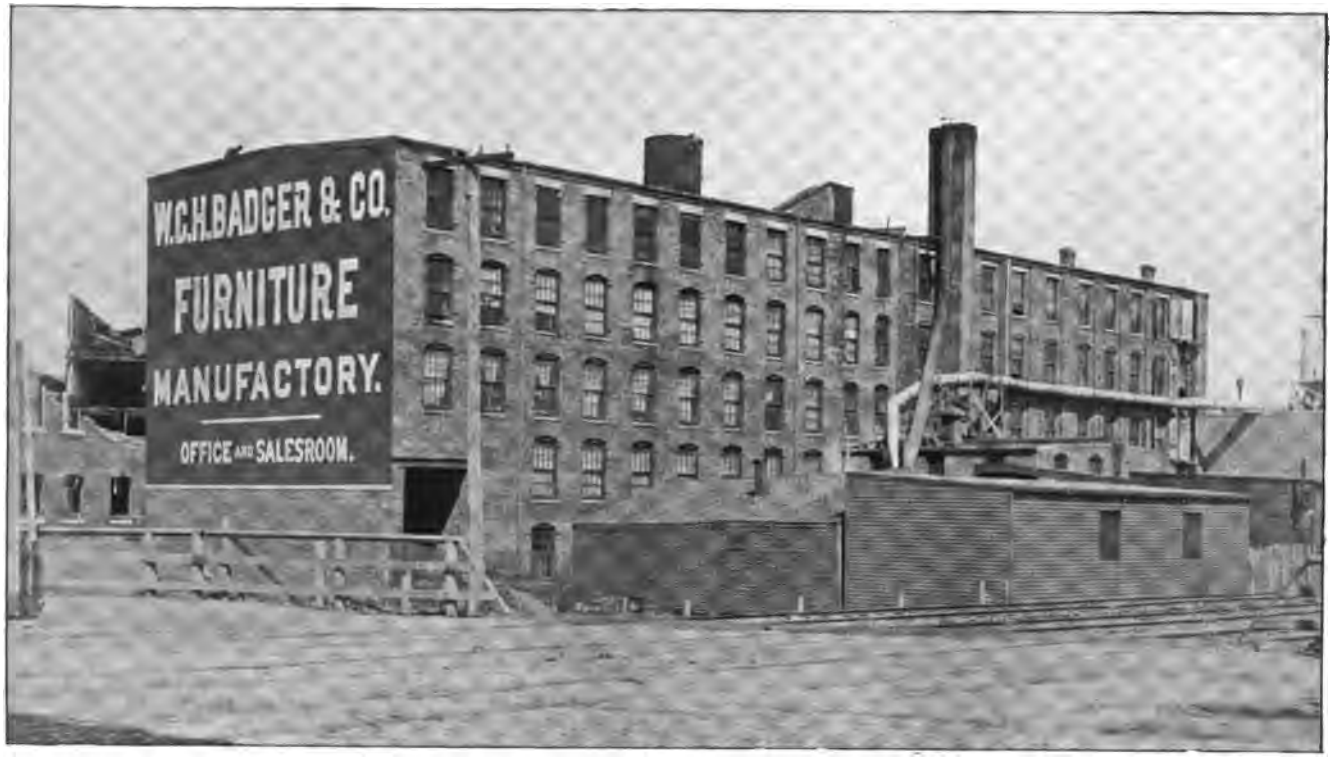
Edwin Hixon was undoubtedly the pioneer in furniture manufacturing in Cambridge. Beginning in 1845, he carried on the business for many years. At one time Cambridge acquired the reputation of being a furniture centre; and although the volume of business in that line has been largely reduced, there are at this time several extensive and prosperous concerns in the city.

KEELER & CO.

Keeler & Co., manufacturers of fine furniture and cabinet work, are located at the corner of Second and Thorndike streets, East Cambridge, with warerooms at Nos. 81 to 91 Washington Street, Boston, and are the successors to the widely known business of F. Geldowsky.

Mr. Geldowsky started in a very small way on Utica Street, Boston, about 1862. Two years later he moved to East Cambridge, where he enlarged his business, and his name soon became known over the United States and Canada for the quality and style of his work. For twenty years he ranked preëminently the leading manufacturer of furniture in America. In 1877 Mr. Geldowsky met financial reverses, and shortly afterwards Messrs. C. P. Keeler & Son assumed the control of the business, retaining Mr. Geldowsky as manager. They then occupied the immense plant bounded by First, Second, Otis, and Thorndike streets. January, 1884, Messrs. Keeler & Co. opened their large retail warerooms at Nos. 81 to 91 Washington Street, leaving Mr. Geldowsky in charge of the manufacturing business. In 1888 Messrs. Keeler & Co. again took control of the factory, Mr. Geldowsky continuing in their employ until his death in July, 1890. During the past ten years they have made a feature of fine cabinet work, and have completed order work from special designs for many public buildings, among which are the City Hall, Fall River; State House Extension, Boston; City Hall, Cambridge; Norfolk County Court House, Dedham; and Middlesex County buildings, East Cambridge; a number of banks, offices, libraries, and armories.

The present firm of Keeler & Co. is composed of Alvin F. Sortwell, of this city, special partner, and Ruel P. Buzzell, general partner.


W.C.H.BADGER & CO.
FURNITURE
MANUFACTORY.
OFFICE AND SALESROOM.

W. C. H. BADGER & CO.

W. C. H. Badger & Co., furniture manufacturers, are located in a large brick building on Albany Street, near Massachusetts Avenue, Cambridgeport. The members of the firm are W. C. H. Badger and George F. Tyler, who are the successors to a business established more than fifty years. The factory is two hundred by fifty feet, and five stories high, and is complete in every department for the manufacture of furniture, having a 150 horse-power engine, latest improved drying apparatus, and storehouses for lumber with capacity for one hundred and fifty thousand feet.

The firm manufacture only the fine grades of furniture, using principally mahogany and quartered oak, and when in full operation employ about one hundred and twenty-five men. They have a large trade all through New England.

A. B. & E. L. SHAW.

A. B. & E. L. Shaw, East Cambridge, are makers of parlor, church, and lodge furniture. The business was established in 1780 by Jacob Foster & Son, and has been continuous since that date. The successors to Jacob Foster & Son were Charles Foster, 1828; Foster, Lawrence & Co., 1833; Edward Lawrence, 1856; Braman, Shaw & Co., 1863; Shaw, Applin & Co., 1877; A. B. & E. L. Shaw, 1887.

The old firms of Foster, Lawrence & Co. and Edward Lawrence employed convict labor at the Massachusetts State Prison in Charlestown, but when Braman, Shaw & Co. succeeded to the business it was removed to East Cambridge. For the past ten years the present firm have occupied the Geldowsky factory, and they employ from one hundred and fifty to two hundred hands. The firm do the largest business in the manufacture of fine upholstered furniture in New England, and have furnished some of the finest clubs, lodges, and hotels in the country, among the latter The Niagara at Buffalo, Hotel del Coronado of San Diego, Cal., The Imperial, The Netherlands, and The Savoy of New York city, The Walton of Philadelphia, and the Jefferson of Richmond, Virginia, and they now have the contract to furnish the new Manhattan of New York, a fourteen-story building, which will be run by Hawk & Wetherbee, the present proprietors of The Windsor of New York.

IRVING & CASSON.

Irving & Casson have been located in East Cambridge about fifteen years. They have a large factory at the corner of First and Otis streets, and employ between two and three hundred men. They make fine custom cabinet work, mantels, and interior finish for high-class dwellings, and have a large business in St. Louis, Buffalo, Chicago, St. Paul,

Washington, Troy, and New York. Their Boston office and showrooms are at 150 Boylston Street.

ROURKE & KENNEDY.

Rourke & Kennedy, 682 Massachusetts Avenue, are the successors of Phillips Brothers & Co., manufacturers of furniture. The firm do a large business throughout New England in desks, bookcases, plumbers' supplies, Phillips's folding-beds, and general cabinet work. Their factory is well equipped for taking large contracts.

THE OTIS WOODWORKS,

John Quin, proprietor, is located on Otis Street, East Cambridge. The concern turns out a large amount of mouldings, builders' finish, store and office fixtures, drawer-cases, and washstands.

A. H. DAVENPORT

has a large furniture factory on Bridge Street, East Cambridge, with Boston warerooms on Washington Street.

THE D. C. STORR FURNITURE CO.

is located on Thorndike Street, corner of First.

Among other furniture manufacturers are G. F. Ericson, maker of wood mantels, cabinet and interior work, State Street, Cambridgeport; Graves & Phelps, tables; T. B. Wentworth, pulpits; A. M. & D. W. Grant, William W. Robertson, P. A. Pederson, and Lee L. Powers, makers of cabinet work.

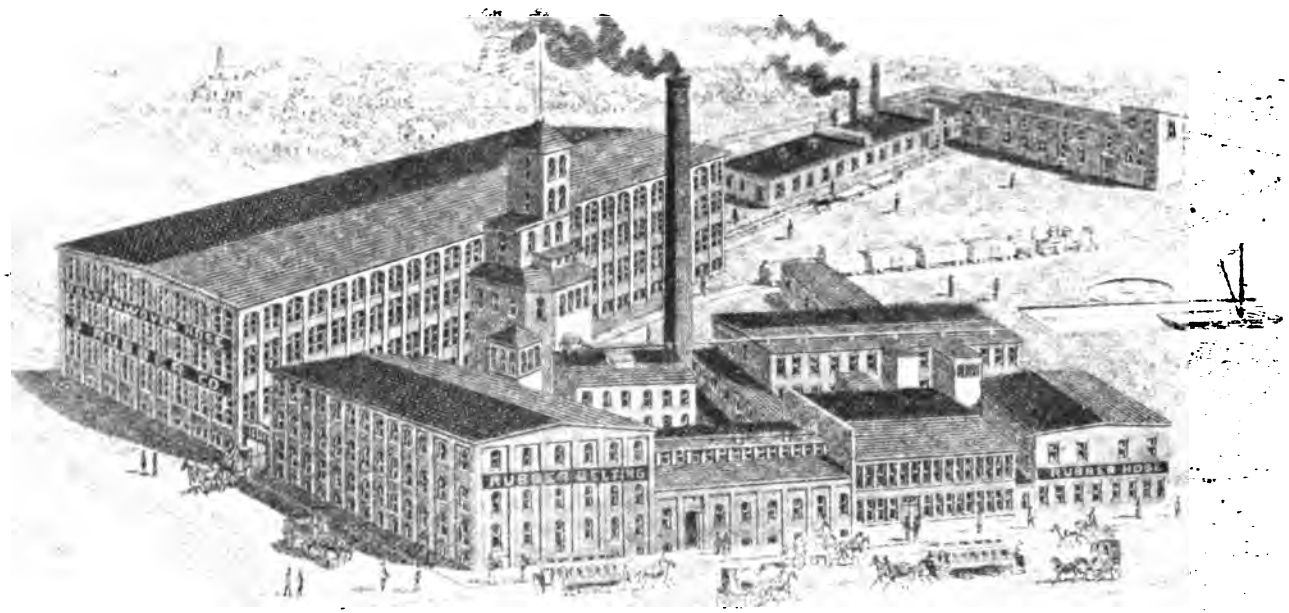
MISCELLANEOUS MANUFACTURES.

BOSTON WOVEN HOSE AND RUBBER CO.[1]

In 1870 Lyman R. Blake, the inventor of the original sole sewing machine, so successfully exploited by Gordon McKay, long a citizen of Cambridge, devised a machine for sewing up strips of rubber-coated canvas into hydraulic hose. This machine was shortly afterward purchased by Colonel Theodore A. Dodge, who, having been placed on the retired list of the army, had taken up his residence in Cambridge, and the manufacture of "Blake hose" was begun.

At first the article produced was acceptable rather from its cheapness than from its solidity; and although the original somewhat flimsy garden hose gradually grew into engine hose really excellent and durable, and although the one place in the hose which never gave out was

[1] The reader is indebted for this interesting description of the Woven Hose Co. to Colonel Theodore Ayrault Dodge. — EDITOR.



BOSTON WOVEN HOSE AND RUBBER COMPANY.

the line of stitches, the public was apt to look askance at the seam, and the article was not a favorite.

When, therefore, in 1872, James E. Gillespie approached Colonel Dodge with the drawings of a loom to weave multiply-tubular fabrics, the latter was quick to grasp its possibilities. Theretofore tubular goods had been woven only on flat looms, a process which left a weak spot along their edge. It had been impossible to "beat up" goods woven in the round form so as to make them sufficiently solid, and only braided round fabrics had been used. As a first construction, Gillespie's loom was remarkable, but its eighty thousand parts made it all too liable to break down. To assist Gillespie, Colonel Dodge, in 1873, hired a young machinist named Robert Cowen, and from that year on until to-day, when he is vice-president of the company and superintendent of a factory where a thousand men and women are working day and night to fill orders, Mr. Cowen has been the soul of the enterprise, the inventor, designer, and organizer of every new manufacture, and the one who, through years of difficulty and disappointment, has stood by his employer and wrought courageously and energetically, until the fitting reward has in due time come.

Gillespie soon dropped out, and for a number of years Cowen's experiments to simplify the loom resulted only in outlay. It was a brand-new thing. Old loom experts predicted failure; old firemen pronounced the hose unpractical. Although some fire departments used "Boyd" hose, a cotton fabric riveted together like leather hose, and then rubber-lined, it was hard to persuade the trade that rubber-lined cotton hose was suitable for garden hose. In 1873 Colonel Dodge successfully tested the first length ever made of rubber-lined, multiply-woven cotton fire hose before the fire commissioners of Boston. It had been made on the Gillespie-Cowen loom; but though the hose itself was good, it was so difficult to persuade the fire departments to use it, that Colonel Dodge was frequently taxed with Quixotism, if not outright idiocy, in persisting in his efforts. For at least ten years, however, these efforts went on, Dodge and Cowen working in unison, but with heavy financial loss to the former, until in 1880, after one hundred and fifty thousand dollars had been spent in experimenting, the two associates, under the name of the Boston Woven Hose Co., began a legitimate manufacture in a very small way in two rooms in part of the Curtis Davis Soap Factory on Portland Street, with only one man and a boy to assist. Such was the humble origin of the present extensive manufactories. In the first year some fifteen thousand feet of cotton garden hose were marketed, — about a quarter as much as is often made in one day in the present works, — and the hose proved satisfactory. Orders began to come in, and the premises and force were gradually increased and the machinery perfected, until the

business was so promising as quite to outrun the capital Colonel Dodge could afford to devote to it. In the spring of 1884 he took in another associate, and Mr. J. Edwin Davis became treasurer of the new corporation then formed with a capital of one hundred and fifty thousand dollars, but retaining the old name. Mr. Davis has ever since been treasurer and manager, and to his energy, adaptability to his new conditions, and unusual business intelligence, as well as to the fact that Mr. Cowen and he have worked together with great harmony, is largely due the exceptional success of the enterprise. At that time the business had grown to employ some sixty hands, and was occupying a building on Broadway, opposite the present location of the factory. In 1886, however, although there were not far from eighteen thousand square feet of floor-room in this factory, the enterprise had grown to so considerable a size that it was determined to erect a plant especially adapted to the needs of the business, and the old Kinsley iron property, on the corner of Portland and Hampshire streets, was purchased, and a substantial brick building erected, with a number of reconstructed outbuildings. The enterprise, which had grown to require two hundred and twenty-five thousand dollars in 1888, was now incorporated in Massachusetts, with three hundred and fifty thousand dollars cash capital. In 1892 adjoining land was bought, and a new and larger mill with more outbuildings were added. In 1893 the capital was increased to six hundred thousand dollars. The following table of hands employed and floor-space occupied best tells the story of the growth of the company: —

Date.	Employed.	Floor Surface.
January 1, 1880	7 persons.	3,660 square feet.
" " 1881	25 "	
" " 1882	35 "	
" " 1883	40 "	17,700 square feet.
" " 1884	59 "	
" " 1885	65 "	
" " 1886	89 "	
" " 1887	104 "	58,831 square feet.
" " 1888	134 "	
" " 1889	148 "	
" " 1890	163 "	
" " 1891	181 "	
" " 1892	216 "	
" " 1893	280 "	178,765 square feet.
" " 1894	366 "	
" " 1895	422 "	
" " 1896	975 "	247,530 square feet.

While the original manufacture of the company was hydraulic hose, — still one of its largest products, the annual output reaching many

million feet, — the energy of Mr. Cowen, responding to the demand created by Mr. Davis, gradually extended the scope of its business, and belting, packing, gaskets, mould-work, mechanical goods of all kinds, almost everything in rubber except clothing and shoes, brass fittings, and other metal goods, became staples of its trade.

There is probably no factory in America where there is at work more ingenious machinery not known elsewhere, and this is the creation of Robert Cowen, aided by a staff of old and young employees, numbering men who have learned by hard knocks, men who have been taught at the Institute of Technology, men who have served the company for twenty odd years, and men who but last year entered its service. Each has contributed his part.

No assumption is more certain in America than that a man who works with energy, intelligence, and economy will eventually succeed. Ill luck at rare intervals negatives this assumption, but ill luck is wont to come from neglect of one or another of the three postulates, usually the last. It is, in fact, this certainty of success which makes America the Eldorado of workmen. In the case of the Boston Woven Hose and Rubber Co., never-ceasing push, rare intelligence, and judicious economy have been fully rewarded.

In 1893 experiments were begun in bicycle tires, and the next year a good many thousand tires were marketed; and in 1895 still more, both "Vici" tires with an inner tube, and "Vim" hose-pipe tires, and the latter at once became a pronounced success. The "Vim" proved to be speedy, non-puncturable and durable, and at the end of 1895 the company found itself almost snowed under by orders for 1896.

The capital stock was again increased by another three hundred thousand dollars cash, — nine hundred thousand dollars in all, — the force at the factory was nearly doubled, and part of the machinery was run twenty-four hours a day. At the inception of this memorial year, it is doubtful whether any concern within the limits of Cambridge is employing more of its citizens in healthful factory-rooms, at good wages, and with reasonable hours of work.

There are within the factory walls a well-equipped laboratory, a printing and lithographic office, and a machine-shop employing forty men. Flat looms weave the peculiar goods for the bicycle tires, and circular looms turn out the hose. A large reclaiming plant is kept busy, and the rubber machinery is unsurpassed in the world. Perhaps as high a compliment as can be paid to Robert Cowen is that during all the years he has, as superintendent, been helping to build up this great industry, he has never had a strike, a shut-down, or a lock-out, and no concern has more employees who have grown gray in its service. They number many scores of men and women who have worked for it from a dozen to twenty years.

At the other end of the line in Boston, the work is done with equal zeal and discretion. Over twenty traveling salesmen and thirty office-employees are engaged in distributing the manufactures of the company, while the branch stores in New York, Chicago, St. Louis, Denver, and San Francisco almost double this staff. It is not often that it can be said that a young man undertakes the management of a business within a year of graduation (Mr. Davis is a Harvard '83 boy), and builds it up to so high a plane, without a single period of relapse. In each year since 1882 the annual sales have increased, the credit has bettered, and the standing of the concern become more firm. It has steadily discounted its purchases of raw material, and even during panic years has seen no day when it had to ask the renewal of a note, or an undue favor of a bank. A uniform dividend of eight per cent. a year has been steadily paid, and a considerable surplus put into new buildings and machinery. The men who have made the concern so prosperous are Robert Cowen and J. Edwin Davis, as for some years past Colonel Dodge, though retaining the presidency, has been much absent, and has exercised only an advisory control. Yet his juniors insist that at times they are glad to rely upon his judgment, matured by many years of intimate knowledge of the underlying requirements of the business, and they are unwilling to permit him to retire from the helm.

The directors have been unchanged for years: the three officers already named, and Messrs. J. N. Smith and Rhodes Lockwood.

In the average mind Cambridge is associated with the shady elms under which have walked and studied and played so many of our foremost citizens; its notable manufacturing facilities are known to few outside of the vicinity of Boston. There are, however, few cities in the world where building land and building facilities are so good; where water is abundant; where coal can be delivered in the original bottom at the very door of your boiler-room; where freight is taken from and brought into your own yard; where municipal control, insurance, and taxes are so fair; where a superb fire department watches over the safety of the factory plant; where intelligent labor can be so readily obtained at a moment's notice, and at a price which is fair to both employer and employee; where the workmen can live well and comfortably, enjoying an unsurpassed school-system and the advantages of a beautiful park; where, associated with the grand old university, there is such an institution as the Cambridge Manual Training School, at which any mechanic may see his son trained free of cost and fitted for the true American upward career. To Cambridge herself, as much as to any other one thing, is the success of all her manufacturing enterprises due, and all agree in acknowledging it.

The enterprise which forms the subject of this monograph is sound

to the core, and the city of Cambridge may well reckon the Boston Woven Hose and Rubber Co. among the best samples of prosperity in its memorial year.

JOHN P. SQUIRE & CO.

The history of the firm of John P. Squire & Co. Corporation, one of the large manufacturing interests in the city of Cambridge, is practically the story of the life and struggles of its founder, Mr. John P. Squire.

Mr. Squire was born in Weathersfield, Vt., May 8, 1819, and was the son of Peter and Esther (Craigue) Squire. He spent his boyhood days on his father's farm, working during the vacations and attending the public schools in term time. This early experience on a New England farm was no hindrance to him in his later experience in business life. His first introduction to business was in his sixteenth year, when he entered the store of Mr. Gad Orvis, in the village of West Windsor, Vt. He remained with Mr. Orvis until the winter of 1837, and, although everything was conducted on a very small scale, he gained a good deal of insight into the methods of business management.

In the winter of 1837, feeling the need of a better education, he attended the academy at Unity, N. H., of which the late Rev. A. A. Miner was then the principal; and during a part of the same year, to enable him to pay his expenses at the academy, he taught school at Cavendish, Vt. This finished his school education. He left the home of his boyhood, and moved to Boston March 19, 1838. He went to work immediately for Nathan Robbins, who was in business in Quincy Market, now commonly called Faneuil Hall Market, and continued with him until April 30, 1842, when he started for himself and formed a partnership with Francis Russell, under the style of Russell & Squire, at No. 25 Faneuil Hall Market, where the new firm carried on a provision business until 1847, when it was dissolved.

Mr. Squire continued the business at the same place alone until 1850, when the firm of John P. Squire & Co. was formed, his partners being Hiland Lockwood, who married Mr. Squire's sister, and Edward D. Kimball. This firm name of John P. Squire & Co. continued from that time until April 30, 1892, when the John P. Squire & Co. Corporation was formed. The partners of Mr. Squire changed several times between 1850 and the date of the formation of the corporation, and the changes were as follows: —

Edward D. Kimball retired and W. W. Kimball was admitted into the firm in the year 1866; in 1873 George W. Squire and Frank O. Squire, sons of Mr. Squire, became partners, and W. W. Kimball retired; Hiland Lockwood died in 1874, and George W. Squire with-

drew in 1876; Fred F. Squire, the youngest son, became a partner January 1, 1884.

When the corporation was formed, Mr. John P. Squire became president; Mr. Frank O. Squire, vice-president; and Mr. Fred F. Squire, treasurer.

In 1855 Mr. Squire bought a small tract of land in East Cambridge, on Miller's River, and built a slaughter-house, which was then adequate for the business. Additions and changes have been made from time to time, until now the corporation has one of the largest, most modern, and best-equipped packing-houses in the country, and the business carried on ranks as third in the hog-packing industry in the United States.

A short sketch showing the growth and facilities of the business as now carried on as contrasted with the early days may not be without interest. At first but one hog a day was slaughtered; and when the number slaughtered per day was twenty-five Mr. Squire thought, as he often remarked before his death, that he was on the high road to success. The average number now slaughtered varies from 2500 to over 4000 per day for every working day in the year, with a capacity for slaughtering 6000 per day. The total business done by Mr. Squire the first year amounted to about $16,000. At present the business aggregates about $16,000,000. The tract of land on which the plant is located has grown from the small piece first purchased in 1855 to include twenty-two acres, of which nearly fourteen are covered by buildings, the main building being six stories high and having several acres of floor space.

Originally the meats were cooled by placing them in large boxes of chopped ice. This crude method was superseded by using large buildings filled with ice, the lower portions of which were thus made refrigerators. One such was built by Mr. Squire about the year 1881, which held 37,000 tons of ice, and had three or four floors for cooling purposes besides the basement. After the fire of October 5, 1891, which destroyed the hog-house and burned out the interior of this large refrigerator, Mr. Squire adopted the De La Vergne system of artificial refrigeration, and built a large building wherein were located two large machines with a daily ice-melting capacity of 300 tons, and had this large refrigerator building equipped with the piping necessary for carrying on the refrigeration. By means of this change the area for cooling purposes was largely increased, having now a total of nine acres under refrigeration, and there can be hung at one time in this refrigerator 12,000 hogs. A large additional chimney, higher than Bunker Hill Monument, had to be built, and several new boilers to run the machinery had to be put in; the changes made necessary in the adoption of this improved system have largely increased the equip-

ment and the facilities for carrying on the pork-packing business of this corporation.

The live hogs are purchased in the West, and are shipped by rail to the packing-house in East Cambridge, and the freight paid for transportation amounts to a sum above $700,000 per annum. There are about 1000 men employed at the packing-house, and it may fairly be ranked as one of the important industries of the city of Cambridge.

Mr. Squire was a man of strict business integrity, very modest and unassuming in his demeanor; a man who was just in his dealing with all men. He was a man who to a large business capacity and experience added a keen foresight and a power to forecast the future.

The business has been continued since his death, January 7, 1893, by the corporation formed, as above stated, April 30, 1892.

Mr. Squire married, March 31, 1843, Kate Green Orvis, the daughter of his first employer, Mr. Gad Orvis, and left at his death nine children. His two sons, Frank O. and Fred F. Squire, are at the head of the business. He built up the business he left and held the position which he did in commercial circles by reason of his untiring energy, his undaunted courage, his ability, and his strict integrity, and, by all the rules of the business world, earned all that he gained.

THE CAMBRIDGE ELECTRIC LIGHT CO.

The first meeting for the organization of this company was held December 1, 1885.

About that time much interest was felt in having the city lighted by electricity. The city had given assurances that a franchise would be granted in the streets for the erection and maintenance of poles and wires; and in the organization of the company the commissioner of corporations of Massachusetts allowed as part of the capital of the company (which was $60,000) the sum of $15,000 as the value of such franchise.

This so-called watering of the stock remained as part of the capital stock until 1895, when it was charged off from the earnings of the company and is no longer a part of the assets, although when mortgage bonds were issued the franchise was included as part of the property of the company.

The original members of the corporation were John E. Burgess, George A. Burgess, Porter A. Underwood, A. J. Applegate, and E. H. Mulliken.

Subscriptions for stock were opened, and L. M. Hannum, A. P. Morse, Dr. Charles Bullock, S. S. Sleeper, C. W. Kingsley, Gustavus Goepper, and others became stockholders, there being twenty-four in all. John E. Burgess, George A. Burgess, and P. A. Underwood were elected directors, and, January 27, 1886, were made officers of

the company at a meeting of the stockholders then held: John E. Burgess, president; George A. Burgess, treasurer; P. A. Underwood, clerk, and E. H. Mulliken, superintendent.

On December 30, 1886, the board of aldermen authorized the company to erect and maintain poles and wires on Main Street from West Boston Bridge to Brattle Square, and soon after a few arc lamps were installed. On September 1, 1887, 77 public arcs, 7 commercial arcs, and 847 incandescent lamps had been installed in the city.

At this time the city lighting was very poor, owing to the system in use and the imperfect construction of the lines and poles. In time that was obviated by the introduction of a new system, and the rebuilding almost entirely of the pole-lines, so as to avoid connection with trees and other obstructions. At the present time no better lighted streets are to be found in the State; and the city, as well as consumers generally, is seldom without a good and continuous service.

Messrs. Josiah Q. Bennett and F. H. Raymond were elected directors September 2, 1887, Mr. Bennett becoming the president and Mr. Raymond treasurer, which offices they have held until the present time.

The plant was originally placed in a wooden building belonging to George L. Damon, at 23 Main Street, the foundations of which were so unstable, and the business of the company increased so rapidly, that the stockholders determined upon a removal to some more commodious and convenient location nearer the centre of distribution for the current. The present location on Western Avenue was selected, the land purchased, and suitable buildings erected; and on the 11th of October, 1888, at twelve o'clock noon, the current was let on from the new station, just exactly two years from the date when the current was started in the old station.

On March 5, 1888, the stockholders authorized the issue of new capital up to $100,000, and on December 10, 1888, a still further issue was authorized up to $200,000, which is the present capital stock.

March 15, 1888, Mr. Mulliken resigned his position as superintendent, and Walter R. Eaton was chosen to take his place, which position he occupied until B. Otis Danforth was elected in April, 1891. Mr. Danforth now holds the office of superintendent.

In April, 1888, the Thompson-Houston Electric Company purchased a controlling interest in the stock of the company, and the old systems of electrical machinery made by the Weston and American Electric Company were changed to the Thompson-Houston system, which is now practically in use. A syndicate was formed in the latter part of 1889 to take the stock held by the Thompson-Houston Electric Company, and they parted with their interest. Many citizens of Cambridge not before stockholders became interested in the company.

In 1889 the subject of running the street-cars by electricity began to attract the attention of the horse railroad company.

H. M. Whitney, president of the West End Street Railway Co., was one of the first to take definite action, and this company first supplied the current to storage batteries upon the Cambridge division of the West End Street Railway Co. The experiment was not at all satisfactory, and as the trolley-system had now been invented by Van de Poele, the West End Street Railway Co. adopted it, and Cambridge cars were first equipped with motors under that system, and from July, 1889, until April, 1892, all the cars equipped with electricity were run by power furnished the West End by this company. The business of the Cambridge Electric Light Co. having grown to such proportions as to require all the available plant, and the West End Co. having about finished its new power-stations in Boston and East Cambridge, the electric light company was forced to discontinue delivering power to the West End Co.

The business of the company has shown a constant increase since its formation, and current is now furnished to over 500 arc lamps and 15,000 incandescent lamps, besides about 125 motors for mechanical purposes, from coffee-mills to printing-presses.

The number of men employed in 1887 was only six, and the total income at that time was not over $1500 per month, eighty per cent. of which was paid by the city.

The company now employs from thirty-five to forty men, and the monthly income is about $10,000, the city paying for street lighting about forty per cent. of that amount, showing the comparatively large increase in commercial lighting and power. House consumption is rapidly on the increase, and the most of the new dwellings are equipped with electric wiring.

For the past three years the company has been somewhat restricted in its growth by the agitation of municipal control, the first step being taken by the city council each year, but not consummated until late in 1895.

REVERSIBLE COLLAR CO.

Among the diversified business interests of Cambridge is that of the manufacture of the "linene" collars and cuffs. The history of the Reversible Collar Co. is a story of a third of a century of marked business prosperity. In the early "sixties," the manufacture of paper collars was an important industry; the goods enjoying much favor from the general public.

In 1862 the late Mr. George K. Snow invented improvements in machinery and processes for the manufacture of paper collars, and a business arrangement was made with Messrs. March Brothers,

Pierce & Co., of Boston, for the manufacture and sale of the goods made by the improved methods.

After the close of the Civil War, a better and more substantial class of goods was introduced, and the paper collar gradually went out of use. Mr. Snow, however, kept his inventive faculty at work, and his inventions kept pace with the demand for better goods. In 1866 The Reversible Collar Co. was incorporated. Mr. Snow became its president, and George N. March, treasurer, and the manufacturing business of the company which had heretofore been done in Boston was transferred to Cambridge. The building situated between Arrow and Mount Auburn streets was purchased and prepared for the use of the company. About this time Mr. Snow invented and patented a machine for uniting cloth and paper in continuous rolls, which before this had always been done by hand, and in sheets, and the larger portion used was imported from England.

Mr. Snow's invention enabled the company to produce the most perfect fabric for machine-made collars that had been discovered, and the same method is now used in the manufacture of the fabric from which "linene" goods are made.

In 1883 George N. March retired from the office of treasurer, and Eben Denton was chosen treasurer and general manager. Mr. Denton, finding that the collar business of the company used but a part of the plant, introduced a separate branch of business, that of manufacturing colored, glazed, and enameled papers; these met great success, and the demand for them rapidly increased.

Mr. Snow died in the summer of 1885, and Phineas Pierce was then chosen president, and Robert Butterworth superintendent of the works. The business of the company rapidly increased, and additions to the buildings were made at different times, until all the land of the original plant was covered.

In 1893 the company again found itself cramped for room, and it was necessary to seek a new location. A large lot of land extending from Putnam Avenue to Banks Street was purchased, and in 1895 one of the handsomest manufacturing buildings in Cambridge was erected. The main building is 222 feet long, 76 feet wide, and is three stories high above the basement; the engine and boiler house is fifty-seven by sixty feet, and two stories high, and the smokestack rises 127 feet above the ground.

The company employs about 125 persons, chiefly men. In addition to the manufacture of the "linene" collars and cuffs, the output of which in 1895 was 11,573,000, about 1440 tons of coated, enameled, and glazed paper were finished and sold.

AMERICAN NET AND TWINE CO.

The American Net and Twine Co. is located on land extending from Second to Third Street in East Cambridge, where are manufactured all kinds of cotton and linen nettings used in the different fisheries of the American continent.

This company commenced business in a very small way in the year 1842, and was located in the same building where their office now is, 34 Commercial Street, Boston.

At the time this business was established the fish-netting of this country was all made by hand, and was made almost entirely of hemp twines imported from England.

In the year 1844 James S. Shepard, of Canton, became connected with the company, and commenced the manufacture of the first cotton twine used for netting in this country, which eventually completely displaced the hemp twines in the American fisheries.

From this small beginning this company has steadily increased in size and capacity to its present standing, which finds it the largest producer of fish-nettings, twines, and lines in the world.

In the course of events, as their business increased and machinery was invented for the manufacture of netting, these machines were added to their plant, and constant additions were made until, in the year 1875, their old quarters being entirely inadequate to the handling of their business, they located in East Cambridge in the factory which they at present occupy.

This factory was built expressly for the manufacture of netting, and is a model of convenience for the work for which it is intended.

The "Gold Medal" brand of cotton twine and netting, which is well known throughout all the fisheries of this continent, is manufactured by this company in their own mill. At their cotton-mill at Canton they manufacture from the raw material the cotton twines which are sent to the Cambridge factory, and there put into the great variety of sizes and shapes required in the different kinds of nets, seines, and pounds used in the commercial fisheries of the continent.

They also make a specialty of the linen gill netting business, and are proprietors of the "A. N. & T." "Coy" brand of linen gilling, which probably is more used in the gill net fisheries than all other brands combined.

Their manufactures have received the highest award in every instance where exhibited in competition with others. At the "Centennial" Exposition in Philadelphia, the "World's Fisheries Exhibition" in London, England, in 1883, and the "World's Fair" in Chicago in 1893, they came in competition with manufactures of the world, and secured the highest award in every line of work, receiving the only gold medal awarded in London, England, in 1883.

At the factory at East Cambridge are employed some three hundred hands, where, with the patented machinery invented and developed by their own means, this company is enabled to produce at the lowest possible cost the great variety of goods employed in the fisheries.

The location of their factory at East Cambridge brings them in quick and easy communication with railroad and steamboat lines of Boston, enabling them to execute and deliver orders promptly to all parts of the North American continent.

The home office of the company is in Boston, 34 Commercial Street, and their only branch office is located at 199 Fulton Street, New York.

NEW YORK BISCUIT CO.

This establishment, so well known all over the United States, was originally started by the late Artemas Kennedy in 1839, when he came to Cambridgeport and began business in a brick building on Main Street near Brookline, where he remained for about six years. He then built a frame house with bakery adjoining, on the site now occupied by the apartment house, the Lowell, Nos. 434 to 440 Massachusetts Avenue. He continued to bake crackers in this bakery for a period of about ten years, the actual consumption of flour being about four barrels per day, which was kneaded, rolled, formed by hand, and the crackers were pitched into the oven one by one. He established routes within a radius of forty miles for selling and disposing of the product of his factory. Subsequently he shipped many goods to California during the gold fever, and also to Australia and England. Even so far back as 1855 steam was introduced into his factory, and the product was increased so that nine barrels of flour were turned out daily. He continued to increase his trade up to 1861, in which year he died, and Frank A. Kennedy, his only son, succeeded to the business. From that time the business increased very rapidly indeed, and agencies were established in New York city, Philadelphia, and Chicago. It was found necessary to run his factory night and day. In 1869 the first reel or mechanical ovens were built, which increased the capacity to about twenty barrels of flour per oven. From time to time more reel ovens were added to the plant, and in 1875 a large brick building was erected on Green Street, the present site of the New York Biscuit Co. factory. Subsequently additional ovens were found necessary, and the business had a very rapid growth.

In 1882 the F. A. Kennedy Co. was incorporated under the laws of Massachusetts, to succeed F. A. Kennedy, which corporation continued to exist until the business was sold out to the New York Biscuit Co. on May 10, 1890.

The New York Biscuit Co. is a corporation established under the laws of the State of Illinois, and was organized in 1889. It at first

BISCUIT

simply included five or six bakeries in New York city, but during 1890 plants were purchased in different sections of the country, and the F. A. Kennedy Co., as stated above, was bought by them on May 10, 1890. The New York Biscuit Co. has factories and branches in all the leading cities of the United States. It controls the leading brands of crackers and biscuit known in this country, including the celebrated Kennedy, Holmes & Coutts, Larrabee, Bent & Co., Pearson Pilot Bread, and in fact all of the leading standard brands of crackers and biscuit principally known east of the Mississippi River. It has a capital stock of nine million dollars. The principal office is in Chicago, Ill.

The Cambridgeport factory is the second largest plant of the New York Biscuit Co., and has the capacity of consuming from three hundred to four hundred barrels of flour per day. To take care of its output one hundred wagons and one hundred and fifty horses are used. Six hundred and fifty residents of the city of Cambridge are constantly employed in this factory.

ALVAN CLARK & SONS.

In an article written by Professor Simon Newcomb, and published in "Scribner's Magazine" in 1873, he says: "When we trace back the chain of causes which led to the construction of the great Washington telescope, we find it to commence with so small a matter as the accidental breaking of a dinner-bell, in the year 1843, at the Phillips Academy, Andover, Mass."

One of the students, George B. Clark by name, gathered up the fragments of the bell, took them to his home in Cambridgeport, melted them, and cast them into a disk. His father, Alvan Clark, assisted him, and the combined skill of father and son produced a five-inch reflecting telescope. Alvan Clark, the father, was born in Ashfield, Mass., in 1804, and was at this time a portrait painter; he had decided mechanical tastes, and at one time had worked as a fine-line engraver.

Taking up his new work with ardor, he spent several years making glasses of gradually increasing size. The first recognition of his genius came from England. The Rev. W. R. Dawes, a leading amateur astronomer, gave him an order for a glass, which was immediately followed by an order for a second one.

Mr. Clark commenced the construction of a telescope for the University of Mississippi, but on account of the outbreak of the Civil War, it was not delivered. It was afterwards sold to the Chicago Astronomical Society. He was awarded the Rumford medal for his approved method in locating errors and eliminating them by the method of local correction. His first work in telescope making was done in his home on Prospect Street, opposite the Tilton House. The

firm moved to the present location at about 1860. Alvan Clark died in August, 1887, and George B. Clark in December, 1891. The business is now carried on by the remaining son, Alvan G. Clark.

In 1862 Alvan G. Clark, by the aid of a newly constructed glass, discovered the companion to Sirius, and for this discovery he was awarded the Lelande medal of the French Academy of Sciences.

Among the great telescopes made by this firm may be named the 26-inch Washington Refractor, the 30-inch Pulkowa Refractor, the 36-inch Lick Refractor, and the recently completed 40-inch Yerkes Refractor.

The workshops are contained in a brick building, located near the residence of Mr. Clark, on the shore of Charles River, at the foot of Brookline Street. They are thoroughly equipped with all necessary machinery and tools. The firm of Alvan Clark & Sons stands at the head of telescope-makers. Their reputation is world-wide.

THE CAMBRIDGE GAS LIGHT CO.

A charter from the State of Massachusetts in 1852 granted Charles C. Little, Isaac Livermore, and Gardiner G. Hubbard, their associates and successors, the right of making and selling gas, and allowed them a capital of three hundred thousand dollars.

The company was organized on the 22d day of June, 1852, by the election of John H. Blake, Isaac Livermore, Charles C. Little, Estes Howe, and Gardiner G. Hubbard as directors; the last named was chosen president, and Estes Howe was the clerk and treasurer from the beginning until his death in 1887.

Blake & Darracott were the contractors who erected the first works; these works were located south of Mount Auburn Street, at the foot of Bath (then Bath Lane) and Ash streets, now appropriated for the Charles River Park. Pipes were laid in portions of Cambridge, and in 1856 they were extended into that part of Somerville lying southwesterly of the Boston & Lowell Railroad.

In 1871, the output of gas having reached fifty-seven million cubic feet per annum, steps were taken to build larger works, and a transfer was made to the present location on Third Street (then Court Street) in East Cambridge. The capacity was one million feet per day, but there is ample room for all future extensions. In 1872, by authority of the State, the capital of the company was fixed at one million dollars, of which at the present time seven hundred thousand are paid in. In 1873 gas was made for a time in both localities, but in 1874 the old works were permanently given up.

In 1876 the advent of kerosene materially interfered with the use of gas, and the consumption, which in 1875 had been eighty-four million feet, fell to fifty-seven million feet in 1879.

From 1879 the increase in consumption was gradual; but in 1886, when the lighting of the streets was largely changed from gas to electricity, a new impetus became apparent in indoor illumination, and the sales of gas, which in that year were ninety-seven million feet, rose rapidly to one hundred and seventy million feet in 1895; the use of gas in cooking and heating has its share in this increase, and all shows a greater affluence among the inhabitants of the city.

The present board of directors is composed of seven members: Willard A. Bullard, Daniel U. Chamberlin, Henry Endicott, Stanley B. Hildreth, Henry C. Rand, Daniel G. Tyler, and Quincy A. Vinal.

Daniel U. Chamberlin is the president: Adolph Vogl, clerk and treasurer; and Horace A. Allyn, superintendent.

AMERICAN RUBBER CO.

The American Rubber Co. was organized in 1872 under the laws of Massachusetts. A jobbing business was done until 1877, when the factory was built in Cambridge for the purpose of manufacturing boots, shoes, clothing, and wringer rolls. The plant was entirely destroyed by fire in December, 1881, but was at once rebuilt on a larger scale, and the capital increased from two hundred thousand to five hundred thousand dollars and later to one million dollars.

In 1877 the amount of floor space in use was two acres, the number of employees one hundred, the pay-roll sixty thousand dollars, and the product valued at three hundred thousand dollars. At the present time the floor space covers seven and one fourth acres, the number of employees is fifteen hundred, the pay-roll nearly six hundred and thirty thousand dollars, and the value of the product three and one half million dollars per annum.

Mr. R. D. Evans was the originator of the company, and he has remained at its head to the present time. Mr. Allen L. Comstock is superintendent.

The capacity of the plant at the present time is twenty-five thousand pairs of boots and shoes and two thousand rubber coats and mackintoshes per day. This company was among the first to make mackintosh coats in the United States, beginning as an experiment and increasing their product slowly, until they now make nearly one thousand per day. The company have branch houses in New York, Chicago, St. Louis, and St. Paul, the product is sold over the country from Maine to California, and a large export trade is being developed. One million two hundred thousand pounds of crude rubber and cotton and woolen cloths and other materials to the value of one million dollars are used annually.

The company state that among the advantages found from being located in Cambridge are excellent freight facilities, nearness to the

Boston market, and the ease with which they can find workmen when needed.

A. H. HEWS & CO.

own the oldest existing pottery in the United States, located in North Cambridge. The business was founded at Weston, in 1765, by the grandfather of the present senior member of the firm of A. H. Hews & Co. On the fly-leaf of the journal of the founder of the business is written "Abraham Hews's book, Weston." The first entry was made on the day of the battle of Lexington: —

April 19, 1775.			
Lemuel Jones, to ware, Dr.	0	2	8
Isaac Flagg, to ware, Dr.	0	2	7
April 29, 1775.			
Isaac Jones, to ware, Dr.	0	2	0
Nathan Darkhurs, to ware, Dr.	0	2	0
June 19, 1793.			
David Brackett, to my horse to Framingham, 12 miles, Dr.	0	3	0
Thos. Rand to 8 thous^{d} shingle nales, Dr.	0	17	4
October 28, 1794.			
the Widow Ward, to Earthern ware, Dr.			
May, 1797.			
Esq^{r} A. Ward, to 1½ Days work Charles and oxen Braking up, Dr.	0	12	0
Mch 4, 1800.			
Dr. Amos Brancroft, to ware, Dr.	0	1	6
the Widow Lucy Sanderson, to Hogg, Dr.	2	17	8

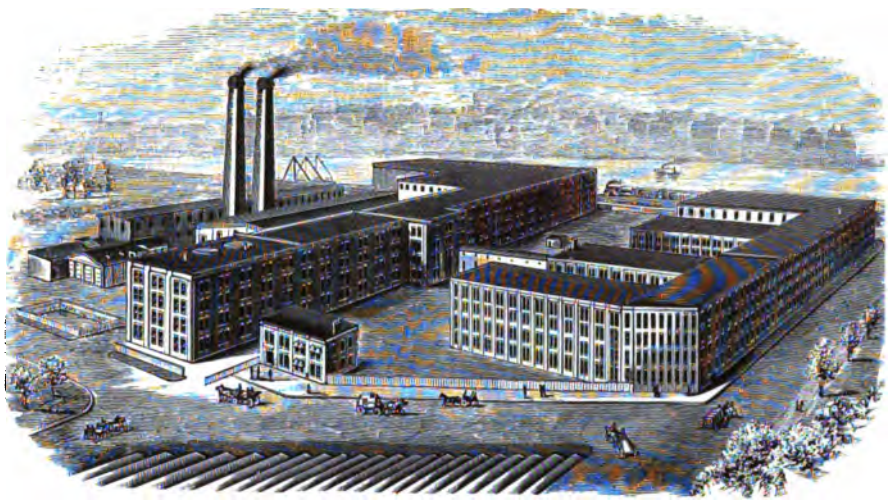
For more than one hundred years the business remained in the same location, and passed through the hands of four generations. In 1870 it was removed to Cambridge. The early records of the concern show that the principal articles of manufacture were beanpots, bread and milk pans, and teapots, and that the trade was mostly barter, exchange for groceries, New England rum, etc.

Until the year 1864 or 1865, common flower-pots, the world over, were made by hand on the potter's wheel, which was propelled by hand or foot. In 1869 the concern manufactured seven hundred thousand flower-pots; in 1894 seven million. In addition to this enormous number of flower-pots they turned out large quantities of jardinières, cuspidors, and umbrella stands.

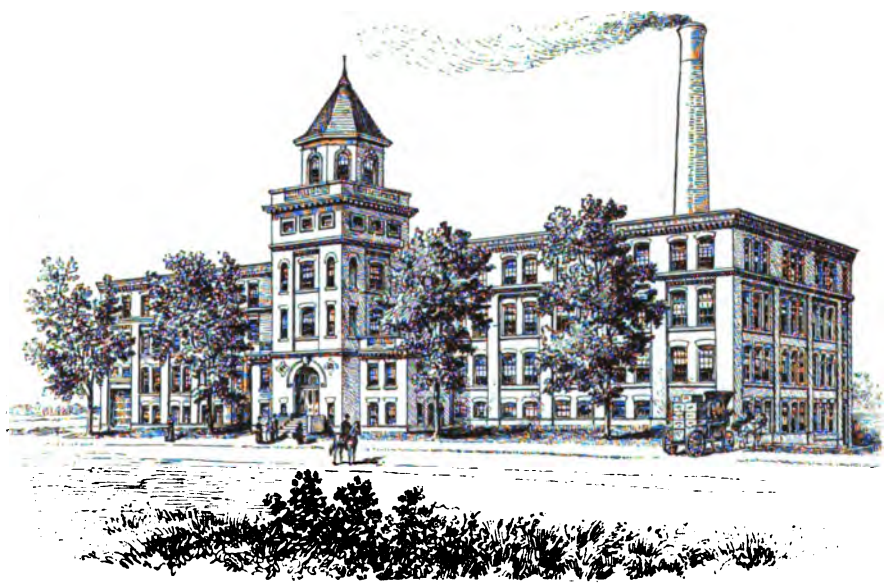
During the busy season they employ one hundred and fifty hands, with a weekly pay-roll of one thousand dollars. The capital employed is from fifty to seventy-five thousand dollars.

ALDEN SPEARE'S SONS & CO.,

manufacturers, importers, and exporters of oils, emery, starches, and mill and laundry supplies; general headquarters, 369 Atlantic Avenue, Boston; works at East Cambridge, Mass., Walpole, Mass.,



AMERICAN RUBBER COMPANY.



THE REVERSIBLE COLLAR COMPANY.

and Fall River, Mass., — was established in 1851. The help employed numbers between four and five hundred people.

The works at East Cambridge are the largest. Here every modern facility is employed to carry on their extensive oil trade. The works are reached from the Boston & Albany Railroad by a private spur track, known as the Rogers Street Siding. By the use of large pumps, tank-cars containing seven thousand gallons of oil can be emptied of their contents in half an hour, and seven cars can be pumped at one time. Similar facilities for the reception of imported oils are employed. A private wharf is located at Third Street, large enough for the biggest vessel. The oils are pumped into large tanks, of which there are twenty, with a capacity of over one hundred and fifty thousand gallons, the oil first passing through immense oil presses, rendering it free from all foreign substances. Many of the neighboring factories are supplied with oil through lines of connecting pipe.

To carry on this business, over an acre of floor space, as well as acres of open yards, is required. Thirty teams and many tank wagons assist. Two one hundred horse-power boilers and seventy-five horse-power high-speed auxiliary engines, with electrical apparatus, furnish power and light. Private telephone lines connect the works with a "central" in the main office in Boston, whereby the different departments can communicate with each other, or with the general public, if desired.

The firm is now composed of Lewis R. Speare, Henry I. Hall, E. Ray Speare, and Alden Speare, special, ex-president of the Chamber of Commerce, and present president of the Boston Board of Trade.

They have offices and agencies in nearly all the large cities in America, with a foreign representative.

A BRIEF HISTORY OF THE RIVERSIDE BINDERY, BLACKSTONE STREET.

The name of "The Riverside Bindery" was first given to this establishment by Mr. James Brown, the father of Mr. John Murray Brown, who is the only surviving member of the original firm of Messrs. Little, Brown & Co., the well-known law-book publishers of No. 254 Washington Street, Boston. This business had its conception in the year 1852, in a small wooden structure situated on Remington Street, Cambridge, then owned by Mr. Little, the business being conducted by A. F. Lemon and Charles P. Clark, Esq. From Remington Street the business was removed to Blackstone Street, and was carried on in conjunction with a law-book business then being conducted under the management of Benjamin F. Nourse and John Remick, in the "old Almshouse," which was purchased by Mr. Little from the city of Cambridge. It stood on a part of the estate where now is the world-re-

nowned establishment called The Riverside Press, owned and operated by Messrs. Houghton, Mifflin & Co. Messrs. Nourse & Remick were succeeded by Messrs. Lemon, Remick & Fields (the latter a brother of the Mr. James T. Fields of the famous publishing-house of Fields, Osgood & Co., Boston). These were in turn succeeded by A. F. Lemon and Messrs. Little, Brown & Co., as equal partners. Mr. Lemon's interests were eventually purchased by its present proprietors, Messrs. Little, Brown & Co.

The Riverside Bindery was finally removed across the street to its present location. It is noted far and near for the excellency of its fine leather bindings.

The writer of this article is indebted to Mr. John Bartlett, formerly a copartner of Messrs. Little, Brown & Co., and the author of "Bartlett's Familiar Quotations," and also to Mr. A. F. Lemon and Mr. C. F. Wilson, the present manager of the establishment.

THE GEORGE G. PAGE BOX CO.

The George G. Page Box Co. has grown with our city's progress until it is now the largest concern of the kind in the New England States. Mr. George G. Page, whose name the company bears, and who was its founder, was born in Dorchester, N. H., in 1807. In 1844 Mr. Page commenced the manufacture of boxes and packing-cases in Cambridgeport, his shop being on what is now Magazine Street, where all the work was done by hand. In 1845 he built a small factory and dwelling-house at the junction of Hampshire Street and Broadway, the site now occupied by the present corporation. In 1857 the factory and dwelling-house were both totally destroyed by fire. Mr. Page rebuilt his factory upon a larger scale. Into his new building he put an engine of thirty horse-power and other new machinery. After a short time it was found that the business was increasing, and that more room and better facilities were required, and extensive additions were made. The manufacture of cigar-boxes became a prominent feature in the industry, and nearly one hundred people were given employment where only a few years before two or three were all that were required. Wood-working machinery had not at that time reached that high degree of perfection it has now, consequently more skilled labor was needed to do the same amount of work than is necessary in these days. Another disaster by fire came upon the industry in 1873. One evening a blaze started in the cellar of the factory, and in a short time both building and machinery were totally destroyed, together with two sheds full of lumber, a cargo of lumber that had only been landed a few days before, and their large lumber wharf, and a dry-house full of hard-pine boards. Notwithstanding this sudden and heavy loss, but a short time was required to place the concern again

in working order. The old furniture manufactory of Batchelder, Moore & Co., of East Cambridge, was secured, and new machinery put in, and a room was hired in Leander Greely's building, where the cigar branch was carried on. Early in the spring of 1874 the present brick building, one hundred and thirty by fifty feet, three stories high, was commenced, and in July of the same year it was ready for occupancy. At this time Mr. Wesley L. Page became a junior partner, and the firm name was George G. Page & Co. In 1880 failing health compelled Mr. George G. Page to relinquish all active part in the business, and he retired, leaving its entire management to his two sons. In December, 1882, Mr. Ovando G. Page died, and the following March the present corporation was formed, under the style of the George G. Page Box Co.

Its present officers are: Wesley L. Page, president; Clarence M. Howlett, treasurer; Dana R. Johnson, clerk; who constitute the board of directors.

On the 13th day of January, 1886, Mr. George G. Page died, but he lived to see the works which he founded on so small a scale become one of the largest of their line in New England. The present plant consists of a brick building known as Factory No. 1, one hundred and thirty by fifty feet, three stories high, and a wooden building known as Factory No. 2, one hundred by fifty feet, of three stories. In the rear of Factory No. 1 is a storehouse, sixty feet square and two stories in height. Outside of the main building is a brick boiler and engine room, built in 1885. The buildings are thoroughly protected against accident by fire by steam-pipes, which run to every part of the buildings, and in case of fire the opening of a valve in the engine-room will at once fill any or every room with raw steam. Automatic sprinklers are also run through every story. The various buildings and yards are lighted by incandescent lamps, the supply for which is taken from a plant of their own. On the first or ground floor of Factory No. 1 are located the planers. Here the lumber is received just as it comes by vessel or car from the mills in the Maine forests. Formerly a load of boards required two or three handlings during its transportation from the car or vessel to the machinery, but now the truck or team upon which it is loaded backs up to the wide doorway, where it is slid on rollers directly to the machine. There are several of these planing-machines in constant operation, finishing thirty thousand feet per day. These machines plane two boards at once on both sides. After leaving the planing-machine the lumber goes to the cutting-off saws, where it is cut into the proper lengths for boxes. Other saws cut it into proper widths for sides, tops, bottoms, ends, or whatever it is intended to be used for. The pieces are fitted by means of a matching-machine, and then they are in shape to be put together into boxes of any size or shape desired, from the smallest up to a piano case.

On the second floor is located the room where all the tools, saws, and cutters are kept in condition by an experienced man employed only for that purpose, the remainder of the floor being used by band-saws, locking-machines, combination cut-off saws, and other machinery used in the general manufacture.

On the third floor are the machines where the small lock-corner boxes are made. From Factory No. 1 all the work goes to be finished to Factory No. 2, which is in the rear but connected by a covered bridge. On the first floor of Factory No. 2 is situated the printing department, which has grown to be a very important branch of the box-making business, by which means pasting on of labels has been done away with. Several presses are kept here in constant operation, printing the ends and sides for the boxes in one or more colors. On the second floor is situated the superintendent's and shipping-clerk's office. Here, also, are located the various machines for finishing large lock-corner boxes, and several men are employed making up boxes that are too large to be nailed by machines.

On the third floor of Factory No. 2 is found more of the lock-corner machinery, nailing-machines, etc., used in finishing all kinds of boxes. Here are in use five nailing-machines, which, with those in other departments, make twelve in all, and will drive nails from three-fourths inch up to three inches in length. In the several departments, five hundred thousand feet or more of lumber cut to size is constantly kept in stock ready to be put together.

There is very little waste in an establishment of this kind. Sawdust and chips are sold, and the shavings are used for fuel. No coal is used in running the engine. The shavings are blown into the boiler-room to be used for fuel, and the surplus shavings are blown into the second story of the shaving building, from whence they are dropped through a spout into wagons and carted away. The chips are sold for kindling. The entire product of five mills located in Maine and Massachusetts is taken by this company, and, in addition thereto, part of the product of several others is required to supply their needs. Eight to nine million feet are used annually, and three or four million carried in stock. From four to five hundred cars a year are now unloaded in the yard of the Page Box Co.

PARRY BROTHERS.

Cambridge has achieved an enviable reputation for many thriving industries, and among the number that of manufacturing the best brick deserves a word of special mention. The business is all concentrated in one section, a part of Ward 5, North Cambridge. The various pits are located at the upper portion of the section named above, and the most extensive manufacturers are Parry Brothers, whose success and fame in this line are due to unceasing energy, push, and enterprise.

The firm originated in 1874, when the late C. E. Parry, father of the Parry brothers, commenced the industry at the old New England Brick Co.'s plant at the foot of Raymond Street. Mr. Parry died in 1878, and his sons, Messrs. John and William, continued the business under the firm name of Parry Brothers. In 1880 Mr. A. R. Smith was admitted into the partnership. He remained with the firm till 1883, when he sold out his interest to the other partners, and in the spring of 1884 an entirely new firm was organized, consisting of Parry brothers alone — that is, of John E., William A., George A., and Richard H. Parry. That same winter the firm purchased the property and business of the Cambridge Brick Co., and transferred the same to the extensive new yards which they had built on Concord Avenue.

It was at this date that the firm began to make its most rapid strides forward. Their first notable effort was the experiment of brick-making in winter, which was tried with successful results at their Concord Avenue yard. Up to this time there had not been a winter brick made in Massachusetts or New England. They erected the necessary big drier or oven, and at Christmas time in 1885 were turning out, without difficulty, and regardless of the weather, thousands of brick a day. This new method of brick-making is accomplished by artificially drying the brick in an oven by means of hot air instead of by exposure to the sun. Since it has been adopted and proved to be a success by Parry Brothers, several other manufacturers have followed suit.

The process of brick-making at the Concord Avenue yard is an interesting sight. The clay, after being dug out of a large pit by a steam shovel, instead of by hand, as in former days, is thrown into a truck, which is hauled over a track by steam-power, the contents being dumped into the pugging-mills, and it is then forced into a revolving screen, which separates the stones from the clay. The next step is putting it into the brick machine, where the clay is pressed into moulds, and comes out properly shaped at the rate of ninety bricks a minute. The bricks are then placed by hand upon other trucks, several rows deep, and rolled back upon a track into the huge drier, where they remain about twenty-four hours, under a temperature of from 180 to 200 degrees Fahrenheit. When properly dried, the bricks are hauled over a track on the same trucks to the kilns, where they are taken off and piled up forty bricks high in arches containing twenty-nine thousand each. It takes from seven to ten days of constant burning to give the required standard color and hardness. They are then ready for the market.

It was in the winter of 1885 that the Concord Avenue yards were purchased; since then the company has established a large plant in Belmont, just over the Cambridge line. The Boston office of the firm is at No. 10 Broad Street.

THE BAY STATE BRICK CO.

was organized in 1863 with a capital of seventy-five thousand dollars, which has since been increased to three hundred thousand dollars. The company employs from three to four hundred men, and has an annual capacity of fifty to sixty million brick. The plant has the latest and most improved machinery for the prosecution of its work. The Boston office of the company is in the Smith Building, 15 Court Street.

D. WARREN DE ROSAY

manufactures annually fifteen million brick. The business was founded in 1881. The capital invested is fifty thousand dollars, and some fifty men are employed. The company makes a specialty of common sewer and paving brick. The Boston office is at 17 Otis Street.

Other plants in Cambridge are those of N. M. Cofran & Co., Concord Avenue; Edward A. Foster, near Walden Street; M. W. Sands, Walden Street.

ALEXANDER McDONALD & SON.

The first business of the kind in this city was established by Alexander McDonald in 1856, when he commenced cutting marble for monumental purposes. Since that time the business has steadily increased, changing somewhat to meet the demands when granite was introduced.

Mr. McDonald invented the McDonald Stone-Cutting Machine, which is in successful operation in the largest granite works from Maine to California. He was the first to run a quarry entirely by steam-power without the use of horses or oxen. Granite for many fine buildings has been furnished by the firm. Among them are the Worcester Lunatic Asylum and the Durfee High School at Fall River, also memorial work of every description at other places. The Cambridge soldiers' monument, and the soldiers' monument for the national government in Salisbury, N. C., erected in 1872, — the largest obelisk at that time ever manufactured in the United States, measuring four feet square and thirty-one feet in length, — were made here. In 1887 Frank R. McDonald was taken into the firm, and since that time the business has been confined principally to fine monumental work from all kinds of marble and granite.

It has been found more profitable to do the principal cutting and heavy work at the quarries, though at the Cambridge works from twenty to thirty men are constantly employed to do the carving and finishing.

Some of the finest monuments, headstones, tablets, and carved work have been made here, and erected in Mount Auburn and other promi-

nent cemeteries in the United States. The works are located opposite Mount Auburn Cemetery entrance.

THE CONNECTICUT STEAM-STONE CO.,

incorporated April 3, 1893, with a paid-up capital of ten thousand dollars, is located on First Street, East Cambridge, and is a branch of the Connecticut Steam Brown-Stone Company of Portland, Conn., the largest stone-cutting and milling establishment in the country. E. Irving Bell, of Portland, is president; J. David Renton, treasurer; and George Everett, general manager. Their business is that of treating building-stone. Since their location in Cambridge they have invested thirty thousand dollars in the plant for stone cutting and finishing, and have been awarded contracts for such buildings as the Salem and West Newton High Schools, Lowell Court-House and State Normal School. They employ from one hundred and twenty to one hundred and forty men.

JOHN J. HORGAN, manufacturer of monuments, statuary, posts, curbing, etc., established May 7, 1866, and located 45 to 83 Main Street, Cambridgeport, gives employment to twenty men. He uses a large amount of Italian and domestic marble, and his work is sent all over the country.

Among others engaged in stone working are: The Charles River Stone Co., Austin Ford & Son, R. J. Rutherford, Union Marble and Granite Works, A. Higgins & Co., and William A. Bertsch.

DOVER STAMPING CO.

The Dover Stamping Co. was founded in 1833 by Mr. Horace Whitney, of Dover, N. H. Quite early in life he conceived the idea of making tin covers by means of dies; these articles at that time being raised up by hammering by hand, a very slow process. It was not until 1847 that he succeeded in doing such work. The business was carried along in a small way for a number of years, and finally it became necessary to establish an office in Boston, Mass., which was done in 1857, changing the firm name of Horace Whitney & Co. to the present name of Dover Stamping Co. The principal part of the business was the stamping of tin plates into tinware of all kinds.

In 1865 it was found necessary to have the works nearer the salesroom in Boston, and a tract of land was bought in Cambridge, and extensive works erected.

Mr. Whitney was one of the early pioneers in the business. The concern grew, and in 1871 it became a corporation, under the general laws of Massachusetts. Mr. Whitney was chosen its president, and continued in office until his death, in 1883. The present management is

wholly made up of employees who have passed more than thirty years in its service.

Edward H. Whitney, son of the original founder, is president, as well as mechanical superintendent of its factory in Cambridge. Joseph Moulton is business manager, and also secretary and clerk of the corporation, and Horace N. Loveland is treasurer. These three, with Messrs. Thomas Fernald and A. O. Swain, make up the board of directors.

THE SEAVEY MANUFACTURING CO.,

Third Street, corner of Potter, are engaged in a similar business. They own a large brick factory, and employ a considerable number of hands. Their Boston office is on North Street.

WILLIAM L. LOCKHART & CO.

William L. Lockhart & Co., manufacturers of and wholesale dealers in coffins, caskets, and undertakers' supplies, is the largest establishment of its kind in New England. The factory occupies the entire square on Bridge Street, between Third and Water streets, East Cambridge. The business was established on Bridge Street, near Prison Point Street, in 1854, by D. & W. L. Lockhart, and so continued until 1858, when W. L. Lockhart became sole partner. In 1860 the factory with its contents was entirely destroyed by fire. Mr. Lockhart immediately rebuilt on the present site. January 1, 1893, a copartnership was formed with Charles H. Lockhart, Albert E. Lockhart, and George H. Howard, under the firm name of William L. Lockhart & Co. More than one hundred and twenty-five skilled operators are given steady employment, and a large business has been built up, extending throughout the United States, Canada, and portions of South America.

The warerooms are situated in the business portion of Boston, and are readily accessible from all parts of the city. The building used is of brick and sandstone, six stories high, located at the junction of Merrimac and Causeway streets, and was erected by Mr. Lockhart for the express purpose for which it is used. The different floors of the building are divided as follows (each floor contains about five thousand square feet): second floor, offices and salesroom, and casket hardware department; third floor, show-rooms; fourth floor, for packing and shipping; fifth and sixth floors, storage.

STANDARD TURNING WORKS.

The Standard Turning Works is a corporation organized under the laws of Massachusetts, with a capital of twenty-five thousand dollars. It was organized as a corporation in 1882, the business having been established in 1862. The business is the only one of the kind within

many miles of Cambridge, and consists of making, by automatic and special machinery, handles of all kinds and special turnings of any description; in fact, any article turned from wood or ivory. A large variety of woods, both native and foreign, is used, and the concern claims to keep in stock more kinds of wood than can be found elsewhere in America.

Their extensive storehouses are filled with manufactured goods, and with material ready to be worked into any required shape. The business employs about twenty hands, and it is a matter of pride with the management that work is found for their employees every day in the year except legal holidays. The trade extends over the United States, with some export trade.

The officers of the corporation are Walter Ela, president and treasurer, and Richard Ela, manager.

CHARLES PLACE.

Charles Place, manufacturer of paper boxes, is located at 134 Norfolk Street. Mr. Place began business in 1885, occupying a cellar kitchen on the corner of Broadway and Moore Street, and employing five girls in the manufacture of fancy boxes. The growth of the business soon compelled a change in quarters, and Mr. Place moved to Norfolk Street. In 1890 the building was enlarged to one hundred by fifty feet and five stories in height, and about one hundred and fifty hands were employed. In 1893 another addition was made, fifty by forty feet, and from the present outlook more room will soon be a necessity. Employment is given to fifty men and two hundred girls.

The basement of the factory is used almost entirely for storage of stock; the other floors are given up to the making of boxes, from the tiniest pill-box to the largest used in the clothing and fur trade. The number of boxes turned out averages seventeen thousand per day. Machines specially designed for the work are run by steam power.

H. M. SAWYER & SON.

This business was established in 1840 by Mr. B. D. Moody, and between that date and 1877 it was conducted by Pettingill & Blodgett, Pettingill, Moody & Blodgett, Pettingill, Moody & Sawyer, Pettingill & Sawyer, and finally, in August, 1877, the former partners having retired, Mr. H. M. Sawyer became the sole owner. In 1887 Mr. C. H. Sawyer being admitted, the firm was conducted under the name of H. M. Sawyer & Son, under which name it is now being run. At the time the business was established the product consisted largely of waterproofed hats, and it was not until some years later that waterproofed clothing was manufactured to any great extent. Of late years, however, clothing has become the largest feature in the product, and the goods are now sold in almost every country in the world.

HENRY THAYER & CO.

In 1847 Henry Thayer was the proprietor of a retail apothecary store on Main Street, Cambridgeport, and began in a small way to manufacture fluid extracts. Beginning in a little room in the rear of his store, the business increased rapidly, and he soon had to seek larger quarters. A small two-story building was erected, but in a year or two this too proved insufficient, and they removed to the brick building on Main Street known as the Douglass Block. In the mean time John P. Putnam and Francis Hardy had become members of the firm. In 1870 they erected the brick building on Broadway which they now occupy as a laboratory. The building is four stories with a basement, sixty by eighty feet, with an annex sixty by forty feet. The firm is recognized as among the leading manufacturing chemists of the day, their goods being sent all over the world.

GOEPPER BROTHERS.

The steam barrel factory of William and Gustavus Goepper is located on the corner of Ninth and Spring streets, East Cambridge. The business was begun in Charlestown in 1871, and removed to Cambridge in 1872 and located on Gore Street. In 1880 the firm purchased their present location, which has a frontage of two hundred and ten feet on the Grand Junction Railroad, and which enables them to unload cooperage stock direct from the cars to the dry-houses and storehouses. The capacity of the works is about thirty-five hundred new and fifteen hundred second-hand barrels per day. The capital engaged is thirty thousand dollars, and employment is given to forty men. The pay-roll is about twenty thousand dollars per annum.

NEW ENGLAND SPRING-BED CO.

This company began business in Boston in 1890. Soon after it removed to Cambridgeport, and it now occupies the brick factory on Osborn Street, corner of Main. It makes a specialty of spiral spring-beds and woven wire cots. It also imports brass and iron bedsteads. The latter are finished at the factory on Main Street, near the spring-bed factory, where it has a large oven for baking the enamel. The company has a well-equipped plant for the work required, and in the busy season employs about forty hands. The output is sold mainly in New England, although there is some export trade. Elmer H. Grey is president, and M. S. Fickett treasurer, of the company. The Boston office is 90 Canal Street.

CHARLES E. PIERCE & CO.,

manufacturers of tin cans, 442 Main Street, began business in 1875, and at present employ about twenty hands. They make a specialty of cracker, varnish, and syrup cans, the work being done with dies and machinery. They are the patentees of the process of making solderless square tin boxes for the use of biscuit and confectionery manufacturers, also patentees of the key-opening screw can-top, used in all kinds of preserve cans. The concern uses mostly American tin plate, made in sizes to suit their work. The manufactured goods are sold all over New England, and shipped West as far as St. Paul. The partners are C. E. Pierce and Charles Waugh.

P. J. McELROY & CO.

Glass-making was one of the earliest of manufacturing industries in Cambridge; in fact, the industry was once a prominent one in New England. Competition in the West and the ability to produce a cheaper glass has caused an almost entire removal of the industry to that section. P. J. McElroy & Co. are the only manufacturers of glass left in Cambridge. The business was established in 1853, and the product — glass tubes, philosophical and surgical instruments — is sold over the United States, with large exports to South America, Japan, and Australia.

CARLOS L. PAGE & CO.

Carlos L. Page & Co., located at Nos. 164 to 174 Broadway, Cambridgeport, have carried on the business of box-making for ten years. They occupy a four-story brick factory seventy-five by forty feet, which, with other buildings, covers an area of about forty thousand square feet. The factory is fully equipped with all modern machinery necessary to carry on a large business. The lumber used in the construction of boxes is brought from Maine and New Hampshire, and about four million feet is used annually. Employment is given to sixty men.

DAVID WILCOX & CO.

This business was established in Cambridgeport in 1860. The company manufactures fine-grade stiff, silk, and soft hats for the retail trade throughout the country. The capacity of the factory is from sixty to seventy dozen per day. One hundred and fifty hands are employed, and the weekly pay-roll is from fifteen hundred to two thousand dollars. The partners are David Wilcox, Elbert P. Wilcox, and F. R. Going.

HOWE SPRING-BED CO.

The manufacture of spring-beds was established in Cambridge in

1854 by Tyler and Otis Howe, father and son. The elder Howe died in 1880, and the business was continued by his son until his death in 1891. It was then purchased by Melvin M. Hannum, the present owner. Three floors of a brick building eighty feet by forty are occupied in the manufacture of spring-beds, cots, and berth bottoms. The product is sold over the United States, with some exports to England.

REVERE SUGAR REFINERY.

The Revere Sugar Refinery, situated between the Boston & Lowell Railroad and Miller's River, East Cambridge, began operations in 1871. They occupy an extensive building of six stories, and employ directly about one hundred and thirty men, with an annual pay-roll of one hundred thousand dollars. They also furnish steady work to a considerable number of coopers and teamsters. The daily capacity of the works is about fourteen hundred barrels of refined sugar.

JEROME MARBLE & CO.

This company manufactures oils, starches, dye-stuffs and chemicals, and is located on Fifth Street, corner of Rogers, Cambridgeport. The firm is sole agent for the National Linseed Oil Company, and has Boston offices at 42 Pearl Street.

A. & E. BURTON & CO.

This business was established in 1844 by Harvey & Burton, and is located at Nos. 122 and 124 Harvard Street, Cambridgeport. They manufacture brushes and feather dusters to the value of two hundred thousand dollars annually, and employ from seventy-five to one hundred hands.

JAMES A. FURFEY,

manufacturer of cocoa mats and matting, is the successor of the business of James Furfey, which was established in 1848. Factory and office, Brookline and Erie streets, Cambridgeport.

F. M. EATON,

No. 351 Broadway, makes bristle brushes and corn brooms.

JOHN C. DOW & CO.

are manufacturers of fertilizers, and their factory is located on Portland Street, East Cambridge. Boston office, 13 Chatham Street.

C. W. H. MOULTON & CO.,

Gore Street, East Cambridge, claim the honor of being the oldest ladder manufactory in America. Their product is extension ladders, step ladders, trestles, clothes horses, lawn settees, splint and reed chairs.

THE W. F. WEBSTER CEMENT CO.

has a factory on Albany Street, Cambridgeport, and there manufactures elastic cement.

THE BARBER ASPHALT PAVING CO.,

makers of Trinidad Lake asphalt pavements, are located on First Street, near the West Boston Bridge. Mr. Charles Harris is manager.

W. W. REID MANUFACTURING CO.,

436 Main Street, manufactures shoe blacking, liquid and paste belt dressing, and liquid and paste metal polish.

BREED WEEDER CO.,

State Street, corner of Osborn, manufacture farming tools. William O. Breed is the manager of the business, and the Boston office is at 26 Merchants' Row.

CAMBRIDGE VINEGAR CO.,

manufacturers of vinegar, are located at 75 Main Street, Cambridgeport.

DAVID W. DAVIS,

manufacturer of bluing, is located on Clay Street.

STREET RAILWAYS.

The West Boston Bridge was opened in 1793, and soon afterwards a public conveyance was established, which made a trip once a day; afterwards two trips were made daily, leaving Cambridge at eight o'clock A. M. and two o'clock P. M., returning at noon and six o'clock P. M. The Cambridge stage started from Boyden's, Dock Square.

Previous to that date, from the time of the first settlement, access to Boston was difficult. There was a choice, it is true, of ferries, and one might cross the river at Charlestown, or at the foot of the present Boylston Street, whence the route lay through Roxbury and across the Neck, then only wide enough for the passage of Washington Street.

In the early part of the century Reed & Soper kept a livery stable on Dunster Street and ran a line of three-seated stages to Boston, passing through Main Street and over the West Boston Bridge.

In 1826 Captain Ebenezer Kimball, the then landlord of a tavern on Pearl Street, Cambridgeport, started the "hourly." Later, a man named Tarbox ran a two-horse stage line between Cambridge and Boston. Afterwards, Thomas Stearns, Tarbox, Dexter Pratt, and a man named Sargent put on a four-horse omnibus line. Stearns bought out his partners, and carried the business on for a long time. Mr. Stearns, who is now living on Farwell Place, Old Cambridge, says his tolls amounted to one thousand dollars per month.

Abel Willard and Mark Bills also had stage lines, but they were afterwards consolidated with those of Stearns & Kimball, and ran until they sold out to the horse railroad. Before the consolidation of the rival stage lines, competition was so great that cabs were put on for the purpose of calling at private residences for passengers upon proper notice being given.

The "Harvard Branch" had a brief existence. It was a spur from the Fitchburg Railroad to a point near the Common, between the Law School and the Gymnasium in Old Cambridge. Its officers were Gardiner G. Hubbard, president, and Dr. Estes Howe, treasurer, who, with James Dana, of Charlestown, Oliver Hastings, Joseph W. Ward, and William L. Whitney, of Cambridge, constituted the board of directors.

The Cambridge Railroad was incorporated in 1853, and was leased soon afterwards to the Union Railway. The story of the beginnings of this road, by Mr. Frederick T. Stevens, for many years its treasurer, is of exceeding interest: —

"The Union Railway Company was incorporated under the laws of this commonwealth and approved by the governor, Henry J. Gardner, May 15, 1855. The first meeting was held October 8 of the same year.

"The principal instigator in this then great work was our well-known citizen, Gardiner G. Hubbard, to whom the city of Cambridge owes a debt of gratitude. He was the prime mover in almost every project at that time for the practical benefit of the city. He was aided by such men as the late Judge Willard Phillips, Herbert H. Stimpson, Charles C. Little, Estes Howe, and John Livermore. These men believed that the time would come when the pumps would get rusty and the wells go dry; that whales would become scarce and candle dips would not afford the light needed; and that omnibuses would not accommodate the requirements of the generations to come, and hence we have to-day, as the results of their foresight, the Cambridge Water-Works, the Gas Light Company, and the successor of the Union Railway Company, — the West End Company. Let no one suppose for one instant, however, that the originators of these works were any more philanthropic than some of the railway kings of the present day.

"The first call for a meeting of the stockholders of the Union Railway Company was dated September 11, 1855, and signed by the late John C. Stiles as 'one of the persons named in the act of incorporation.' The meeting was held at the office of Gardiner G. Hubbard, 5 Congress Street, Boston, and was adjourned, for want of a quorum, to October 8, at the City Exchange Building. At that meeting the

THE METROPOLITAN STORAGE WAREHOUSE.

act of incorporation was accepted. The meeting was called to order by Mr. Hubbard, who was chosen chairman, and the late Dr. Estes Howe was elected clerk *pro tempore*. The officers elected were: directors, H. H. Stimpson, Willard Phillips, Charles C. Little, and G. G. Hubbard; Estes Howe was elected clerk and treasurer. Of these Mr. Hubbard is now the only living representative. Mr. Stimpson was appointed a committee to procure subscriptions to the capital stock, and Messrs. Little, Hubbard, and Stimpson a committee to arrange the lease with the Cambridge Railroad Company, who were the owners of the corporate right to lay tracks in the streets.

"At this time it was hard to find any one who would take stock in any such concern, and the Union Railway Company was incorporated for the purpose of leasing any or all of the tracks of the Cambridge Railroad Company, or of any connecting tracks. Messrs. Hubbard and Stimpson were a committee to confer with the Cambridge omnibus proprietors with reference to the purchase of their property. The committee on cars was Messrs. Hubbard, Stimpson, and William A. Saunders. Adjourned meetings of the company were held, at which no quorum was present. Finally, on the 19th, a meeting was held, and a code of by-laws adopted. When enough of these brave fellows could be brought together, which was seldom, they evidently made them attend to business, for at a protracted meeting on the 27th day of this same month, the long-mooted question of procuring cars was settled, and Mr. Hubbard was appointed a committee to procure five cars from Messrs. Eaton & Gilbert. These were the first purchased by any street railway company in the city of Boston.

"Speaking of these cars recalls to my memory that the late Abel Willard, one of the proprietors of the omnibus line, once told me that he, with many others, rode into Boston (not in a car, however) to view the spectacle of one of these same cars coming down Cambridge Street hill. They did not believe that there was power enough in the brakes to hold the car, but that it would run upon and injure the horses, and finally land somewhere in the vicinity of Charles River. A great change came over the party when they saw how nicely everything operated, and 'Uncle Abel' said that from that time he was satisfied that his omnibus line had got to go under.

"Meetings of the directors at this time were very frequent, but no business of importance was transacted which would interest the public at this day. The subject which seemed to interest the directors most was the question of purchasing two lots on Lambert [now Huron] Avenue; another subject agitated at this time was the purchase of iron cars — 'electrics' were not dreamed of in those days. The first president of the company, Mr. H. H. Stimpson, was elected December 6, 1855, and at the same meeting an assessment of twenty-five per centum

on the capital stock was laid, and the following vote was unanimously passed: 'That the president be authorized to contract with E. Tucker for twenty (20) harnesses, provided he will take one share of stock in part payment of the same.' Times have changed somewhat, and it is not quite so difficult to dispose of West End preferred. On the 19th of December, 1855, the following rates were established for the omnibuses: to Mount Auburn, Old Cambridge, and Brattle Street, 15 cents; to Porter's Station, 10 cents; to Cambridgeport, 8 cents; 12 tickets to Old Cambridge, $1; 15 tickets to Cambridgeport, $1; 13 packages of $1 tickets for $12.

"It was at this time that Dana Street was established as the dividing line between Cambridgeport and Old Cambridge, and that conductors were obliged to furnish bonds in the sum of five hundred dollars, with two sureties, for the faithful performance of their duties.

"The following action of the directors was highly appreciated by many of the passengers, and was the cause of great rejoicing among those who derived a benefit from it, even if they did have to pay for it: 'That the one-horse hack be kept at the Port to call for and take passengers, and that ten (10) cents be charged for a single passage, and five cents each for two if deposited at the same point, and that a suitable vehicle be kept at Old Cambridge to run at the same rates. For all distances over half a mile from the respective offices double fares to be charged; tickets to be issued for all the omnibuses and hacks.'

"At this time the way-fare was established at five cents, and children between the ages of four and fourteen were charged the way-fare instead of the fares heretofore fixed upon for adult passengers. On the first day of March, 1856, the fares were reduced, being fixed at ten cents, and twelve tickets for one dollar, and to Old Cambridge, thirteen cents, and ten tickets for one dollar.

"Now comes the question of the removal of snow from the street in Boston, — nothing being said about snow in the streets of this city. March 12, 1856, it was voted by the board of directors: 'That Mr. Hubbard be a committee with power to make arrangements with the city of Boston for the removal of the snow and ice from Cambridge Street, from the Revere House to the bridge, provided the same can be done at a cost of not over one hundred dollars to the company.' Comments upon the action of the company relative to the removal of snow at that time are unnecessary, but of one thing we are assured: there were no 'snow fights;' they knew their business and considered their money well invested. March 29, 1856, Mr. William A. Saunders was elected a director in place of Mr. John Livermore, who had declined a reëlection.

"Those who are interested in the subject of 'dead-head passes' may

like to know that even as far back as 1856 passes were given, and undoubtedly 'for a consideration.' The first car was run March 26, 1856, and three days after the board voted: 'That tickets be given to Brattle House, Revere House, and to the "Cambridge Chronicle."' At this time the Brattle House was, I think, under the charge of Landlord Willard, and the 'Chronicle' was the only paper published in this city."

Many complaints were made by the people of Cambridge that the accommodations furnished by the Cambridge Railway were insufficient; this culminated in the incorporation of the Charles River Railroad in 1881. Tracks were laid by this company from Harvard Square through Brighton (now Boylston), Mount Auburn streets, Putnam Avenue, and Green Street to Central Square, Main, Columbia, and Hampshire streets to the junction of the tracks of the Cambridge Railway on Broadway, the latter company having refused them the right to make connection on Main Street. The Charles River Company laid tracks also from Porter's Station to Hampshire Street, and from Union Square, Somerville, through Springfield Street, connecting with Hampshire Street tracks at Inman Street; they also built tracks through Brookline Street. The first board of directors was composed of C. E. Raymond, Emmons Raymond, Daniel U. Chamberlin, Henry O. Houghton, Fred S. Davis, Henry F. Woods, of Somerville, Samuel L. Montague, James H. Hilton, and Edmund Reardon. Charles E. Raymond was president, and Daniel U. Chamberlin treasurer.

The Cambridge and Charles River roads became a part of the West End system in 1887.

The West End now controls practically all the street-car lines centring in Boston; it has adopted the overhead electric system, and is furnishing service and equipment unsurpassed by any street railway in America.

To illustrate the extent of the travel between Boston and Cambridge, William J. Marvin, Bridge Commissioner, has prepared the following table: —

Traffic over West Boston, Craigie, Prison Point, and Harvard bridges, April 18, 1896, between the hours of 6 A. M. and 7 P. M.

	Teams.	Horses.	People.	Bicycles.	Cars.	Passengers.
West Boston Bridge . .	4,035	5,466	9,902	246	1,046	20,231
Craigie Bridge	7,284	10,926	14,913	202	563	12,695
Prison Point Bridge . .	1,975	2,916	3,962	95		
Harvard Bridge	3,801	4,851	7,998	3,352	478	13,750
Total	17,095	24,159	36,775	3,895	2,087	46,676

The writer wishes to express his regret that this exhibit of the financial and industrial institutions of Cambridge is not entirely complete. Opportunity was given to every manufacturer to make a presentation of his share in the general work of the community, and there has been no omission except when that opportunity has been neglected. Sufficient information has, however, been offered to surprise all who have not kept pace with the rapid advance of the city in these respects, and far more than enough to make good the assertion that, as a manufacturing centre, Cambridge stands foremost, and has before it a future which must fulfill the most brilliant expectations. The survey, brief as it necessarily is, shows that many sites are left on which great industrial establishments can be planted, amid surroundings which must prove satisfactory to the capitalist as well as a blessing to the employee.

GOVERNMENT OF THE CITY OF CAMBRIDGE, 1896.

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Ward Two.

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ORIGEN O. PREBLE.

Ward Five.

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EDWARD J. BRANDON.

ASSISTANT CITY CLERK.

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CITY MESSENGER.

FRANCIS L. PRATT.

CLERK OF COMMITTEES.

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CITY AUDITOR.

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Visitor, VESPASIAN DANFORTH.

Superintendent of Almshouse, MARTIN L. ELDRIDGE.

Assistant City Physician, LEWIS L. BRYANT, M. D.

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THEODORE L. PIKE.

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ALBERT F. ROBERTS.

THE CELEBRATION OF THE COMPLETION OF THE HALF-CENTURY.

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Mr. George A. Allison,
Mr. John C. Watson.

Chairman, Hon. William A. Bancroft ; *Secretary*, Eben W. Pike ; *Treasurer*, President John L. Odiorne.

CHIEF MARSHAL.

Hon. John Read.

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TREE.

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SALUTE.

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Frank H. Willard, and Origen Q. Preble, Messrs. Otis S. Brown, John Read, William B. Durant, Rev. David N. Beach, George Close, Leander M. Hannum, George H. Howard, John S. Clary, John D. Billings, Edmund Reardon, and Walter H. Lerned.

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Mr. Henry O. Houghton, chairman; Councilman George E. Saunders, clerk; Alderman Watson G. Cutter, Councilman Robert A. Parry, Messrs. Stillman F. Kelley, and Henry D. Yerxa.

BANQUET.

Alderman Henry White, chairman; Councilman Walter C. Wardwell, clerk; Councilman Albert S. Apsey, Messrs. William B. Durant, Charles H. Saunders, George H. Howard, Isaac S. Pear, and Otis S. Brown.

The Mayor and Mr. H. O. Houghton, chairman of the citizens' committee, are members *ex officio* of all executive committees.

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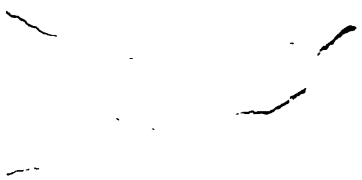

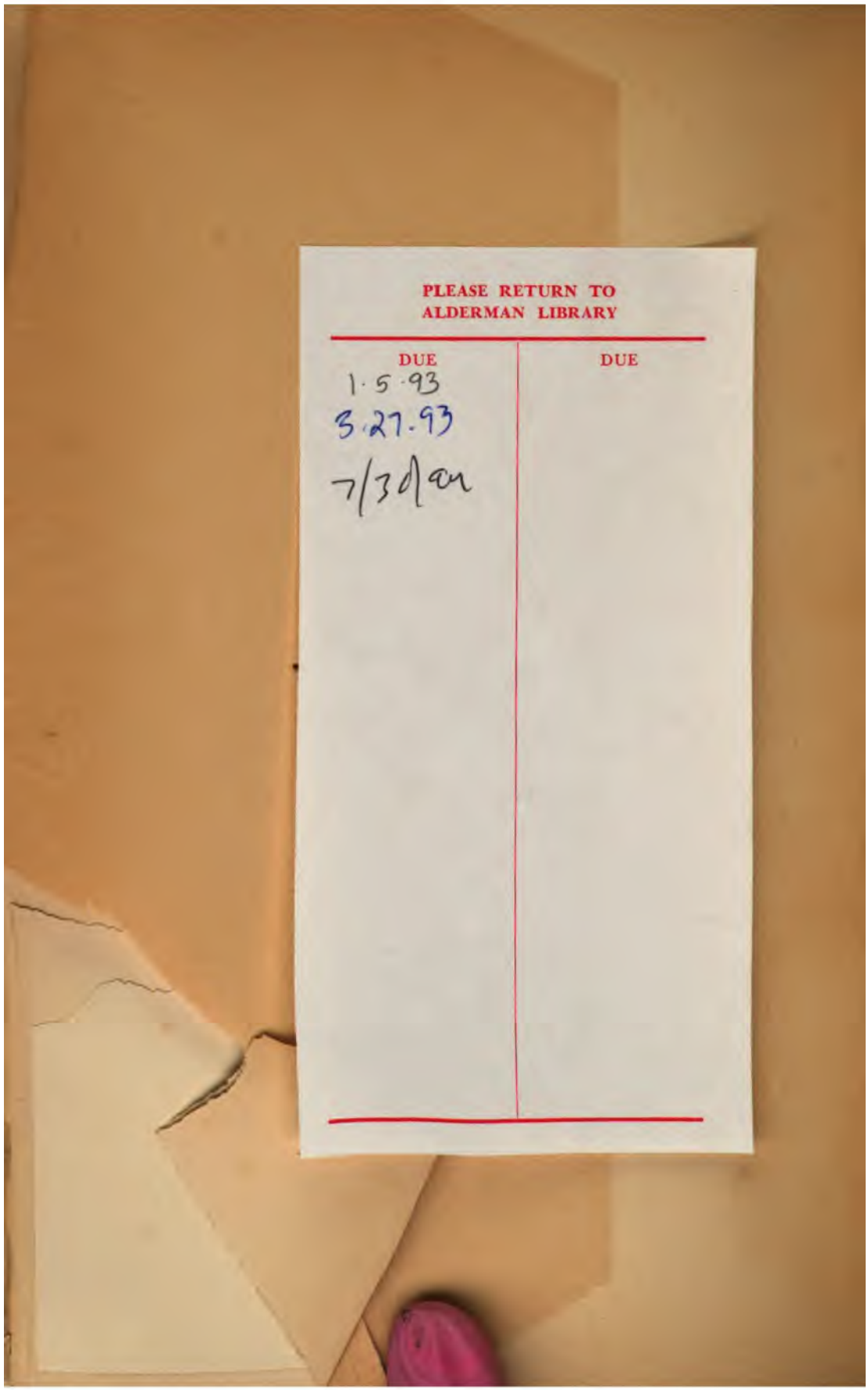
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